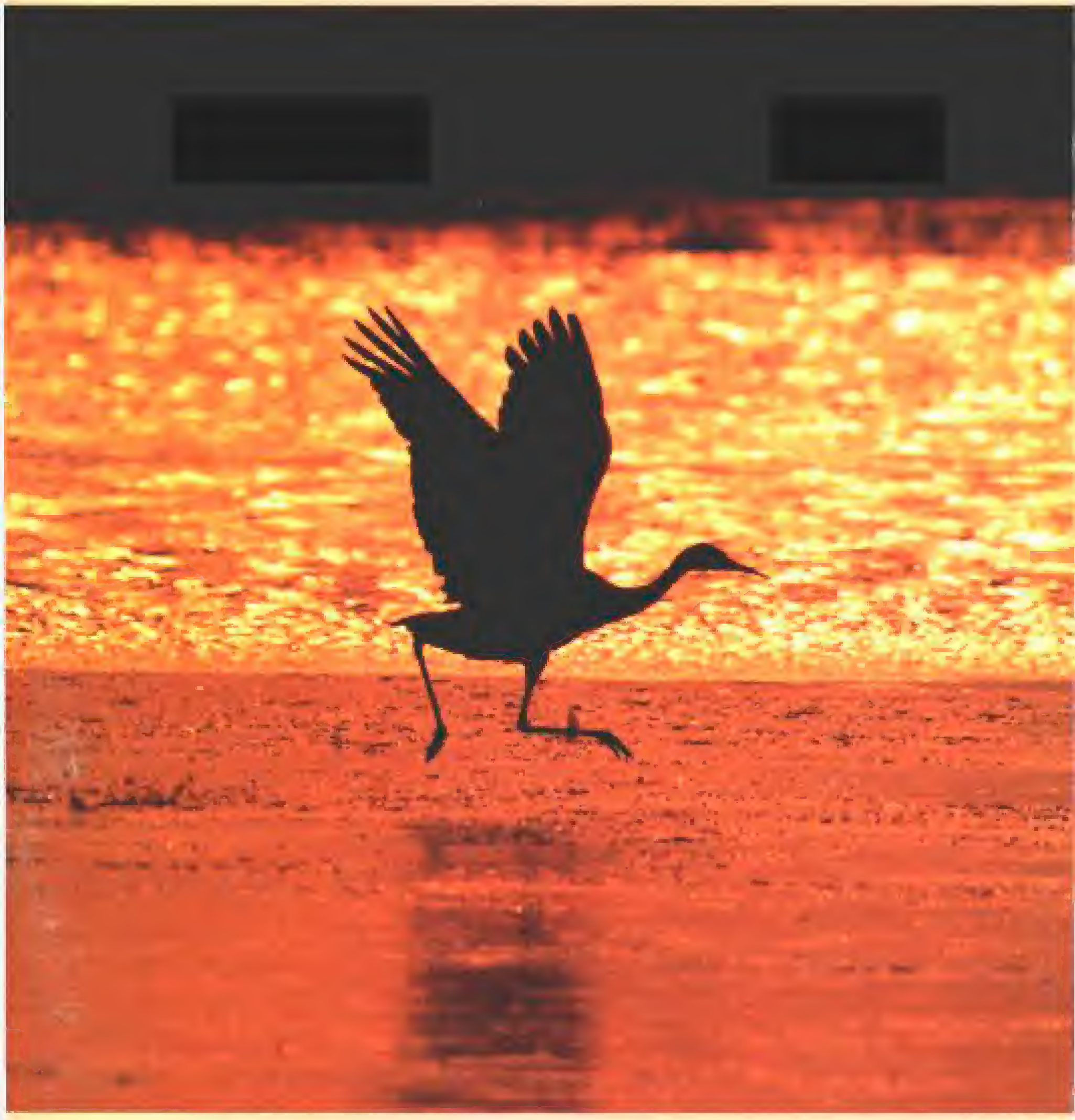
WESTERN BIRDS



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Cover photo by © Renee Lynn (Davis/Lynn Photography) of Palo Alto, California: Sandhill Cranes *(Grus canadensis)*, Bosque del Apache National Wildlife Refuge, New Mexico, December, 1992.

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. The journal welcomes contributions from both professionals and amateurs. Appropriate topics include distribution, migration, status, identification, geographic variation, conservation, behavior, ecology, population dynamics, habitat requirements, the effects of pollution, and techniques for censusing, sound recording, and photographing birds in the field. Papers of general interest will be considered regardless of their geographic origin, but particularly desired are reports of studies done in or bearing on the Rocky Mountain and Pacific states and provinces, including Alaska and Hawaii, western Texas, northwestern Mexico, and the northeastern Pacific Ocean.

Send manuscripts to Philip Unitt, 3411 Felton Street, San Diego, CA 92104. For matter of style consult the Suggestions to *Contributors to Western Birds* (8 pages available at no cost from the editor) and the *Council of Biology Editors Style Manual* (available for $24 from the Council of Biology Editors, Inc., 9650 Rockville Pike, Bethesda, MD 20814).

Reprints can be ordered at author's expense from the Editor when proof is returned or earlier.

Good photographs of rare and unusual birds, unaccompanied by an article but with caption including species, date, locality and other pertinent information, are wanted for publication in Western Birds. Submit photos and captions to Photo Editor. Also needed are black and white pen and ink drawings of western birds. Please send these, with captions, to Graphics Manager.

WESTERN BIRDS

Volume 26, Number 1, 1995

SIXTEENTH ANNUAL REPORT OF THE CALIFORNIA BIRD RECORDS COMMITTEE

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In this report we review 239 records of 86 species and one hybrid recently assessed by the California Bird Records Committee (hereafter the Committee or CBRC). Of these records, 160 were accepted, yielding an acceptance rate (68%) consistent with the most recent reports (Roberson 1993, Patten and Erickson 1994). This rate, however, is lower than in earlier reports, primarily for two reasons. First, in the recent reports, we have voted on a substantial number of historical records that have been published but not reviewed, and a higher percentage of these records has been rejected. Second, the Committee has become more conservative recently. For this report, records dating from 1956 to 1991 were reviewed, the majority being from the summer of 1990 through the spring of 1991.

This report adds no species to the California list, which stands at 586 species. This "inactivity" is temporary, as the acceptance of the Alder Flycatcher (*Empidonax alnorum*) will be reported in the 17th report and that of Great Frigatebird (*Fregata minor*) and Fork-tailed Flycatcher (*Tyrannus savanna*) in the 18th. Other potential additions to the state list under review are the Dark-rumped Petrel (*Pterodroma phaeopygia*), Manx Shearwater (*Puffinus*), and Black-tailed Gull (*Larus crassirostris*). The Band-rumped Storm-Petrel (*Oceanodroma castro*), on the state list by means of a single sight record, is being reconsidered. Outstanding decisions included in this report are the acceptance of California's second record of Stejneger's Petrel (*Pterodroma longirostris*) and the rejection of prospective first state records of Townsend's Shearwater (*Puffinus auricularis*), the Band-tailed (*Larus belcheri*), Iceland (*L. glaucoides*) and Swallow-tailed Gulls (*Creagrus furcatus*), and the Oriental Turtle-Dove (*Streptopelia orientalis*).

All records reviewed by the CBRC are archived at the Western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Camarillo, CA 93010. All

forms of documentation (written descriptions, photographs, recordings, videotapes, etc.) are housed at the foundation, where they are organized taxonomically and by CBRC record number. All are available for public review. The CBRC solicits information on all occurrences in California of species on its Review List (see Roberson 1993) and requests that documentation be sent to Michael A. Patten, CBRC Secretary, P. O. Box 51959, Riverside, CA 92517-2959.

The format of this report closely follows that of recent reports (e.g., Patten and Erickson 1994). In general, records are listed chronologically by first date of occurrence. Included with each record is the location, county abbreviation (see below), and date span. The date span generally follows that published in *American Birds*; if the CBRC accepts a date span differing from that in a published source, the differing dates are italicized. Initials of the observer(s) responsible for the record, if known, are listed first, followed by a semicolon, then the initials of additional observers submitting documentation, then the CBRC record number. All records are sight records unless otherwise noted. Initials followed by a dagger (†) indicate that the observer supplied an identifiable photograph. A "#" indicates a specimen record, and is followed by the acronym of the institution housing the specimen and the institution's catalog number. An asterisk (*) prior to a species' name indicates that it is no longer on the Review List. The number in parentheses following the species' name is the number of records accepted by the CBRC. Two asterisks (**) after this number indicate that the number of accepted records is limited to in a restricted review period or includes records accepted for statistical purposes only [see Roberson (1986) for more information].

When individual birds return to a locality after an absence (for example, in consecutive winters) or remain continuously for multiple years, their occurrence in each subsequent year is reviewed as a new record. The Committee judges, by a majority vote, whether or not the same individuals are involved.

Although the Committee does not formally resolve identification issues below the species level, comments on age, sex, or subspecies are often included. The authors of this report assume responsibility for all such comments, although they are usually based on comments by Committee members during circulation of the record.

The Committee uses the following codes for California counties: ALA, Alameda; ALP, Alpine; AMA, Amador; BUT, Butte; CLV, Calaveras; COL, Colusa; CC, Contra Costa; DN, Del Norte; ED, El Dorado; FRE, Fresno; HUM, Humboldt; IMP, Imperial; INY, Inyo; KER, Kern; KIN, Kings; LAK, Lake; LAS, Lassen; LA, Los Angeles; MAD, Madera; MRN, Marin; MRP, Mariposa; MEN, Mendocino; MER, Merced; MOD, Modoc; MNO, Mono; MTY, Monterey; NAP, Napa; NEV, Nevada; ORA, Orange; PLA, Placer; PLU, Plumas; RIV, Riverside; SAC, Sacramento; SBT, San Benito; SBE, San Bernardino; SD, San Diego; SF, San Francisco; SJ, San Joaquin; SLO, San Luis Obispo; SM, San Mateo; SBA, Santa Barbara; SCL, Santa Clara; SCZ, Santa Cruz; SHA, Shasta; SIE, Sierra; SIS, Siskiyou; SOL, Solano; SON, Sonoma; STA, Stanislaus; SUT, Sutter; TEH, Tehama; TRI,Trinity; TUL, Tulare; TUO, Tuolumne; VEN, Ventura; YOL, Yolo; YUB, Yuba.

Museums that have allowed Committee members access to specimens or have provided information are as follows: CAS, California Academy of Sciences, San Francisco; LACM, Natural History Museum of Los Angeles County, Los Angeles; SBCM, San Bernardino County Museum, Redlands; and SDNHM, San Diego Natural History Museum. Deborah L. Davidson and Michael A. Patten submitted photographs of and information about museum specimens. Other abbreviations used are AFB, Air Force Base; I., island; n. mi., nautical miles; NM, National Museum; NWR, National Wildlife Refuge; Pt., point; R., river; SB, State Beach; and SP, State Park.

An addendum/corrigendum for the 14th report is available from its author, Don Roberson, at 282 Grove Acre Ave., Pacific Grove, CA 93950.

THE ROLE OF THE CALIFORNIA BIRD RECORDS COMMITTEE

In this section we explore, in part, the role of the Committee and its interaction with the birding community. All opinions and definitions are those of the authors, not those of the Committee as a whole. We ask that our readers keep the following thoughts in mind. First, the CBRC does not attempt to "prove" a record; this is beyond our means. Furthermore, our failure to accept a record does not mean the reported bird was not present. Rather, we decide collectively whether the available evidence supports the record to a certain threshold, a threshold that varies tremendously from member to member. The threshold also varies with the significance of a record. The more unexpected a record, on the basis of date and geography, the more cautious some members may be. Criteria for acceptance of a record may follow a continuum; although each member needs to believe that the identification was correct in order for him or her to vote for the record, some members may require less documentation for some species whereas other members may require the same high level for all species. In other words, some want the Committee to approximate as closely as possible what really happened, whereas others would rather reject records that are likely good if there is any question about them. Let's use the following example to illustrate this point. Suppose 100 records are circulated, of which 90 are indeed valid. One member supports 92; the other supports 80. The first favors a more liberal policy, even though it resulted in the acceptance of two bad records, because it more accurately reflected what really happened. The other favors a more conservative policy, even though it resulted in the rejection of ten good records, because it ensured that all accepted records were, in fact, good. Of course, the situation is not this simple, but this example points out how differently various members approach this issue. There is no right or wrong, just ten individuals driven by various philosophies.

Committee decisions can have undesired results. For example, most people feel a certain sense of frustration or anger if their record is not accepted. ("I know what I saw," etc.). A sense of inequity is felt by some, who feel that if you are not part of the "gang," your description will not be given the same chances. There is, unfortunately, likely some truth to that feeling, although most Committee members are aware of the potential for that bias. Some argue that only a description should be reviewed, without

regard for who the observer is. We believe, however, that the observer's reputation and previous experience are important factors. If a person has a history of being able to correctly identify some difficult species, and has demonstrated that he or she understands variation that so often trips up even careful observers, that should weigh in favor of a record's gaining acceptance. There remains, then, an element that is "unfair" to those who write a similar description but do not receive the benefit of such doubt. There is no easy answer, but an understanding of the process and an objective view would be of value.

Let us share the message behind certain sentiments recently expressed to Committee members, a resentment that some (many, we fear) do not submit their sightings because they feel they will not be believed. If so, this is "birding's loss," diminishing our knowledge base to some degree. Several solutions to this problem are possible. The Committee could take a rather permissive tone and accept more records. This may please more people and stimulate more involvement. However, we fear that this "kinder, gentler" approach would not serve the scientific study of bird distribution. Another route is to work with the birding community, leading the way to a higher standard of documentation by helping birders understand what it takes to document a record sufficiently. We can do this, in part, through articles in local newsletters (e.g., *The Western Tanager* and *The Gull*), through workshops at meetings of the Western Field Ornithologists and local Audubon Society chapters, and through individual correspondence.

Yet another angle is to minimize what we call the human side. It is not logical to expect that someone would care enough to write a description and submit it to the CBRC yet not care if the record was accepted. However, we are hopeful that some of this displeasure, and the corresponding "drop-out rate," can be reduced. We feel, and these definitions are ours, there is a distinction between a "sighting" and a "record." In some cases, we might feel that a species was likely seen, as reported, but do not want to embrace the sighting as an accepted "record." Why? Referring to the previously mentioned continuum, we feel that there must be definitive documentation to ensure that when future ornithologists look back at the records we accept the errors will be as few as possible. Removing one's ego from the process can be a difficult task but is a worthwhile goal. Heindel can provide a personal example. The Little Stint (*Calidris minuta*) reported from Orange County and listed in this report under Records Not Accepted was his. Yes, he is disappointed that it was not accepted. Yes, he has likely seen more Little Stints (from years of experience in the Middle East) than any other member of the Committee. But this is a difficult identification, and the record was of an adult, then unprecedented. Even though the description was lengthy, it had its weaknesses. The Committee made a defensible decision. The process is more important than one person's ego. Sometimes a sighting in which the observer has complete confidence fails to gain acceptance. Perhaps it is the "wrong" decision, although such issues are rarely cast in black and white. But we feel strongly that withdrawing from the process solves little, and the potential knowledge that goes unreviewed lessens our ability to learn more about the fascinating subjects of avian vagrancy and range expansions.

Why spend so much effort discussing this topic? We feel a need to reach out, increase communication within the birding community, and solicit your help. It is not self-serving to underscore that the Committee has done some worthwhile work. Yet it is not free of problems. Some of its internal conflicts have not been pretty, and have been waged for too long. This is a shame, but is also on the mend and does not negate the solidity of the Committee's work. This discussion is a recognition of the complexities of the process and reflects a determination to improve it continually.

Birders are hopelessly human. The Committee will always be imperfect; some of its decisions will ultimately be judged wrong. But ornithology can only gain by everyone's working together to raise the level of documentation. We are under no delusions here—we do not expect reams of description for every Philadelphia Vireo (*Vireo philadelphicus*), nor do we expect to receive flowers from someone who has seen his or her record rejected. The less the CBRC is a self-serving, self-important group, the members voting on each other's records, the better. The more inclusive it is, the more information it will generate for future use. We feel that, with your help, the process can yield improved results, which in the end will be worth the effort.

RECORDS ACCEPTED

YELLOW-BILLED LOON *Gavia adamsii* (51). An immature was at Moss Landing, MTY, 30 Dec 1990–17 Feb 1991 (SFB, JLD, MJL, GMcC, DR, SBT; 6-1991). This sighting fits the pattern of records for this species. The straw-colored distal half of the bill and the dark auricular spot, which contrasted with the paler head, were mentioned; both of these marks are excellent for this species.

MOTTLED PETREL *Pterodroma inexpectata* (30). Eight were 42 n. mi. offshore due west of Klamath River, DN, 10 Dec 1990 (MF; 23-1991). This species continues to be seen offshore from November to March, although numbers may fluctuate from year to year.

STEJNEGER'S PETREL *Pterodroma longirostris* (3). Two were well studied, with one being photographed (Figure 1) 53 n. mi. SW of Pt. Reyes, MRN, 17 Nov 1990 (MJA, SFB, BB, AD, EG, KH, CHK, THK, JMk, RN†, DRi, BR, TS, MT†, AW; 175-1990). The only previous record for California was for the same date in 1979 (71-1979); that earlier record was not accepted by the American Birding Association Checklist Committee, generating substantial controversy (see McCaskie and Roberson 1992; Kaufman 1991). Therefore, the photographs supporting these records are most welcome. In addition to the photographs, published in *Am. Birds* 45:146 and 45:174, the observers compiled an impressive series of descriptions. In particular, Bailey and Hansen were very thorough, ensuring that all congeners were eliminated. For an excellent discussion of identification criteria in this complex, see Roberson and Bailey (1991) and Spear et al. (1992).

*WILSON'S STORM-PETREL *Oceanites oceanicus* (128). Up to two were on Monterey Bay, MTY, 11 Sep–7 Oct 1989 (RS; 95-1992). This species has proven to be quite regular in this area, and records from 1990 and later are no longer reviewed.

BROWN BOOBY *Sula leucogaster* (36). At least eight (two adults, five subadults, and one first-year bird) were at the Salton Sea, IMP and RIV, 12 Jul–29 Sep 1990 (JLD†; SFB, NBB, MJL†, GMcC, RLM†, MAP, DR, JCW†; 99-1990). Determining the exact number of individuals was complicated. In addition to the problems caused by movements of individuals around the sea, inconsistencies among observers in

terminology and ageing led to some controversy. In the end we followed the recommendations of Patten and McCaskie, who spent the most time at the sea and analyzed the situation most thoroughly.

TRICOLORED HERON *Egretta tricolor* (4**). An adult in the Tijuana R. estuary, SD, 5–9 Aug 1990 (GMcC; JFW; 137-1990) was felt to be the same as one found nearby in the Tijuana R. valley, SD, 28 Dec 1990–11 Jan 1991 (MJL; GMcC, MAP†; 24-1991). An immature was in the Tijuana R. valley, SD, 7 Dec 1990–3 Feb 1991 (SFB; GMcC, MAP; 211-1990). One at the Whitewater R. mouth, north end of the Salton Sea, RIV, 27 Jul–24 Aug was an adult (GMcC; MAP; 110-1991). Only records from 1990 and later are under Committee review.

REDDISH EGRET *Egretta rufescens* (55). An adult at the south end of San Diego Bay, SD, 2 Sep 1990–1 Jan 1991 (GMcC; MJL, MAP, GR; 135-1990, 105-1991) was the same bird with a deformed bill that had been seen annually since 1982 [see Patten and Erickson (1994) for date spans]. An immature was also on San Diego Bay, SD, 2 Sep 1990–8 Feb 1991 (GMcC; 136-1990). Another immature was found slightly to the north near Del Mar, SD, 15–24 Oct 1990 (LS; 191-1990). Yet another San Diego-area record was of an adult at San Elijo Lagoon, SD, 19 May 1991 (SW†; 100-1991). An adult in Marina del Rey, LA, 27 Apr 1990 (JR†; 16-1991) was only the second for Los Angeles County.

YELLOW-CROWNED NIGHT-HERON *Nyctanassa violacea* (14). An adult in La Jolla, SD, 18 Dec 1990–26 Feb 1991 (JLD, SFB; 46-1991) was considered to be the same individual seen here and along the adjacent coast north to San Elijo Lagoon since 25 Oct 1981; for a complete date span, see Patten and Erickson (1994). An

Figure 1. This Stejneger's Petrel (175-1990) was photographed on 17 Nov 1990, 53 n. mi. off Pt. Reyes, Marin Co. The photographs and accompanying descriptions eliminated all congeners and give California its second record of the species.

Photo by Rod Norden

adult was in the Tijuana R. valley, SD, 30 Sep 1990–7 Jan 1991 (GMcC, MAP; 153-1990), and a subadult at this same location on 16 Jun 1991 stayed until at least 31 Mar 1992, by which time it had molted into adult plumage (GMcC, SEF; 88-1991).

EMPEROR GOOSE *Chen canagica* (58). Two arrived on SE Farallon I., SF, 25 Jan 1991; one left around 1 Feb 1991, the other remained to 28 Mar 1991 (JW†; PP†, DAS; 551991). Another was found at Pt. Reyes, MRN, 11 Feb–10 Mar 1991 (PP; SFB, GMcC, JLD, MJL, JO'B; 47-1991); by an 8–2 majority, the Committee felt this individual to be different from the one that vacated the island. Another was seen at Tule Lake NWR, SIS, 25 Jan–14 Feb 1987 (SEF, KHi, MFR; 86-1987). This bird, for which documentation was slow in coming, was agreed by the Committee to be the same bird that was at Tule Lake 19–21 Oct 1986 (Roberson 1993).

We also received, through the efforts of Roberson and Patten, two older records. Two Emperor Geese were photographed near Santa Cruz, SCR, 9 Jan–19 Mar 1956 (JMi†; 176-1992). This record would have remained unreviewed (see Roberson 1993) were it not for the efforts of many, including a suggestion by Laudenslayer et al. (1991); we thank Hal Michael for his help in piecing together his father's record. Also, an immature was photographed at the Eel R. mouth, HUM, 8–20 Nov 1961 (CFY†; SWH; 112-1992).

GARGANEY *Anas querquedula* (13). An adult male in Irvine, ORA, 12–20 Sep 1990 was the first for that county (MTH, GMcC, MAP; 132-1990). California's first Garganeys in the desert were near Cantil, KER, 30 Sep 1990 (MTH†; JLD; 197-1990) and at Furnace Creek Ranch, INY, 12 Oct–1 Nov 1990 (JLD†; SEF†, KLG, BH†, PEL, MJL, GMcC, KCM, MAP; 150-1990). Both of these individuals were thought to be immature males from the bold border to their speculums but relatively pale blue-gray forewing; most of the Committee felt, however, it was wiser to leave the question of the birds' age unanswered. See Jackson (1992) for a more thorough discussion of ageing of this species. An adult male in Bolinas, MRN, 10 Oct–11 Nov 1990 (GAF, MJL, JMc†, JM, SWM; 166-1990) and refound 29 Dec 1990–5 Jan 1991 (DAS; PP; 13-1991) was felt to be the same bird seen 27 Mar–30 Apr 1990 (51-1990; Patten and Erickson 1994).

COMMON POCHARD *Aythya ferina* (1). A male at Silver Lakes, SBE, 17 Jan–23 Feb 1991 (SFB, JLD, RAE, KLG, EG†, RAH, JML, PEL, GMcC, MAP; 7-1991; Patten 1993) was judged to be a returning bird, first seen at the same location 11–17 Feb 1989 (Patten and Erickson 1994). This single state record continues to raise concern as possibly pertaining to an escapee. By a 9–1 vote, the Committee concluded that its return at an "appropriate" season, coupled with the few records for Alaska (including a spring record for Homer, which might indicate a bird wintering on this side of the Pacific), outweighed the possibility of the bird's having escaped from captivity.

*TUFTED DUCK *Aythya fuligula* (63). A female in Saticoy, VEN, 23 Dec 1990 (JLD; 106-1991) was judged to be the same individual present most winters since Feb 1985. Another in nearby Ventura, VEN, 19 Jan–5 Mar 1991 (PEL, DD†; 15-1991) was judged to be different, as it lacked some white near the bill apparent on the Saticoy bird. An excellent photograph of the Ventura bird appeared in *Am. Birds* 45:320. This is a good example of the value of detailed descriptions.

Puddingstone Res., LA, was home for what was believed to be a returning male, seen 14–17 Jan 1990 (KAR; MB, JLD, KLG†, MAP; 23-1990) and 17 Nov 1990–30 Jan 1991 (GMcC, MAP; 171991). Two males were on Castaic Lake, LA, 28 Dec 1990–21 Jan 1991 (KLG; 101-1992).

A female on Bouldin I., SJ, 15 Dec 1990 (MJL; 198-1990) was thought to be the same as one found some 10 mi. away in Stockton, SJ, three days later (DGY; 60-1991). This is only the third record for the Central Valley, the previous two being for

Stockton 22 Mar 1984 (70-1984) and San Luis Reservoir, MER, 17 Feb 1986 (173-1986) and 21–22 Feb 1988 (209-1988).

Males wintering at at least three sites in the San Francisco Bay area generated confusion over the number of individuals involved. Morlan effectively sorted out the situation as follows: A male was first found at Rodeo Lagoon, MRN, 16 Nov 1990 and was last seen there 15 Mar 1991 (SFB, JLD, GMcC, JM; 48-1991). What was likely the same bird was seen on the Sutro Bath ponds, SF, 18 Jan–16 Mar 1991; it was then seen on Lake Merced, SF, 23–30 Apr 1991 (56-1991). All of these sightings likely pertain to one returning individual, initially present 19 Nov 1988–27 Mar 1989 (257-1988) and seen again 9 Jan-26 Apr 1990 (7-1990). One observer's seeing the bird fly from the Sutro Baths across the Golden Gate toward Rodeo Lagoon convinced the majority of the Committee that one energetic male was responsible for the various sightings.

An adult male in the Mare I. area of Vallejo, SOL, 15 Mar 1990 (DAs, RL; 8-1991) was considered the same as one located 3 mi. away, in Glen Cove, a year later, 16–22 Mar 1991 (MBG; 73-1991).

Records of this species after the winter of 1991-1992 are no longer reviewed.

KING EIDER *Somateria spectabilis* (29). A female was at Monterey harbor, MTY, 18 Mar 1991 (BAF; 521991). What was almost certainly the same bird was at Moss Landing harbor, 2 Jun–6 Sep 1991 (DR, RST; 101-1991). It was one of the few King Eiders to be seen through the summer in California.

MISSISSIPPI KITE *Ictinia mississippiensis* (20). A first-year bird was at Oasis, MNO, 25–26 May 1990 (PR; 89-1990). The majority of the records of this species are from late spring at such desert oases.

ZONE-TAILED HAWK *Buteo albonotatus* (31). An adult was near San Marcos, SD, 22 Dec 1990 (JO'B; 107-1991). Another adult photographed near Escondido, SD, 19 Dec 1990–12 Mar 1991 (GMcC, MAP, HW†; 26-1991) was felt to be a returning bird, seen first on 30 Dec 1989 (84-1990). An immature was at this same location 30 Jan–18 Mar 1991 (GMcC; 25-1991). This species is becoming quite routine in winter in portions of San Diego and Orange counties.

GYRFALCON *Falco rusticolus* (6). One at Lower Klamath NWR, SIS, 23 Jan 1985 (RRH†; 198-1989) came to our attention in a most unusual way. In the May 1989 issue of *MD Magazine*, in an article discussing the comeback of the Peregrine Falcon (*Falco peregrinus*), mixed in with a few photos of Peregrines was one of a Gyrfalcon (Figure 2), labeled as a Peregrine. Craig Roberts of Tillamook, Oregon, noticed the misidentification and alerted us.

WILSON'S PLOVER *Charadrius wilsonia* (5). One was photographed at the mouth of the Tijuana River, near Imperial Beach, SD, 9 Apr 1991 (DP-C; DWA, AM†, REW; 97-1991). This is the earliest of the five state records, the others falling between 20 May and 29 Jun; it is also the first since 1979.

AMERICAN OYSTERCATCHER *Haematopus palliatus* (12). One was on Santa Barbara I., SBA, 30 May 1987 (BWA; 375-1986); this record has been subsumed into the 1986 record of one at the same locality, reported by Bevier (1990).

UPLAND SANDPIPER *Bartramia longicauda* (11). A juvenile was photographed near Oxnard, VEN, 15–20 Sep 1990 (RJM; DD†, KLG, BH†, PEL, GMcC, JO'B, MAP, DR; 124-1990). The cooperativeness of this bird was much appreciated, as most previous Upland Sandpipers in California remained for only a single day.

HUDSONIAN GODWIT *Limosa haemastica* (9). California's second was photographed near Daggett, SBE, 9 May 1975 (GS†; 102-1990). A photo was published in *Am. Birds* 29:908, but that photo did not, in some people's minds, eliminate the

Black-tailed Godwit (*L. limosa*), a potential stray to California. The Committee thanks Mike San Miguel for his work in obtaining copies of the original photos, which were conclusive.

LITTLE STINT *Calidris minuta* (3). Most remarkable was a Little Stint in first basic plumage collected at Harper Dry Lake, SBE, 21 Nov 1988 (#SBCM 52766; 210-1990). It was clearly a small *Calidris* without any trace of webbing, fitting the Little Stint/Rufous-necked Stint (*C. ruficollis*) species pair. Patten carefully measured the specimen on two occasions, confirming its identification as *minuta*. For further information on measurements and identification, see Prater et al. (1977). This species' being found in California on this date is both exciting and disconcerting. How many others have come through (or stayed), only to be overlooked in their basic plumage, which so closely matches that of the Western Sandpiper (*Calidris mauri*)?

WHITE-RUMPED SANDPIPER *Calidris fuscicollis* (11). An adult was in Irvine, ORA, 9–13 Sep 1990 (BED, MTH†, GMcC, MAP; 131-1990). Adult White-rumped Sandpipers are very dull at this time of year; this bird was in typical basic plumage

Figure 2. This picture of the Gyrfalcon at Lower Klamath Natl. Wildlife Refuge, Siskiyou Co., 23 Jan 1985 (198-1989), shows a grayish bird with a poorly defined moustache and a tail extending well beyond the primary tips, both excellent marks for this species.

Photo by Richard Hansen

except for a few black streaks on the flanks. This is the third fall record for California; all three are of adults.

*BUFF-BREASTED SANDPIPER *Tryngites subruficollis* (77). Juveniles were photographed on SE Farallon I., SF, 15–18 Aug 1990 (PP†; 144-1990) and 31 Aug 1990 (PP†; 145-1990). A juvenile was at Pt. Reyes, MRN, 1 Sep 1990 (AME; 212-1990). A juvenile photographed at Edwards AFB, KER, 16 Sep 1990 (MTH†; 201-1990) was the fourth recorded at this locality. One in the Tijuana R. valley, SD, 21–25 Oct 1990 (GMcC; 161-1990) was late but overshadowed by an even later one there 17–23 Nov 1990 (GMcC; 1-1991). At the time this was the latest record for California and the entire United States, though subsequently a juvenile was photographed at the same locality 4–7 Dec 1993 (*Natl. Audubon Soc. Field Notes* 48:248). This species has proven regular in California and poses little identification problem; records after 1991 will no longer be reviewed.

LITTLE GULL *Larus minutus* (43). An adult was at Ravenswood, SM, 31 Mar 1991 (PJM; 86-1991). A first-winter bird was in Santa Cruz, SCZ, 23 Dec 1990–6 Feb 1991 (PEL†; GMcC, MAP, KAR†, SBT; 3-1991); a photograph of it appeared in *Am. Birds* 45:317.

THICK-BILLED MURRE *Uria lomvia* (20). One was photographed in Monterey Bay, MTY, 26 Aug–6 Sep 1990 (MO'B; SFB†, DR†; 116-1990). The early date and worn plumage elicited considerable debate. Some felt the bird was more likely a holdover from the influx of the previous fall (Patten and Erickson 1994); in the end the Committee agreed to consider it a new arrival because of the absence of this species at this locale in the intervening months.

PARAKEET AUKLET *Cyclorrhynchus psittacula* (36). Two were about 95 n. mi. WSW of San Nicolas I., VEN, 3 Mar 1991 (both PP; 61- and 62-1991). In his notes Pyle indicated that these birds were in a zone of water mixing on the boundary of the California Current. He saw another approximately 98 n. mi. W of San Nicolas I., VEN, 6 Mar 1991 (PP; 63-1991). Pyle, who has extensive experience with alcids, noted the bright white undertail coverts this species typically shows as it flies away from a boat. Parakeet Auklets often fly 4–5 m above the surface, enhancing this character's visibility.

RUDDY GROUND-DOVE *Columbina talpacoti* (25). One was at Iron Mountain Pumping Plant, SBE, 1 Oct 1990 (DSt; 139-1991). A female was at Imperial Beach, SD, 8 Sep 1990 (GMcC, JM; 134-1990). A male was photographed at Deep Springs, INY, 26 Sep 1990 (PEL, JLD†;169-1990), constituting the northernmost record for the state. A male photographed near Cantil, KER, 30 Sep 1990 (MTH†; JLD; 190-1990) was the first for Kern County.

Determining the number of Ruddy Ground-Doves at Furnace Creek Ranch, INY, can be difficult. This species can be easily overlooked, and difficulty of sexing some individuals (Patten and Erickson 1994) leads to confusion; the Committee followed the scenario proposed by Patten: A male was present from 14 Oct to 24 Nov 1990, combining records 156-1990 and 204-1990 (KLG†; PEL, GMcC, MAP, KAR). A female was there 17–24 Nov 1990 (GMcC, MAP; 205-1990). Two birds, variously reported as males or females but best left undetermined, were present 17 Nov–23 Dec 1990 (MAP; GMcC, MP, KAR†; 219-1990, 220-1990 and 109-1991).

*BARRED OWL *Strix varia* (7). One nicely sketched bird was near Crescent City, DN, 29 Oct 1989 (ADB; 35-1990). Although records of this species in California are still few, its apparent establishment in the northwestern corner of the state prompted the Committee to remove it from the Review List in 1990.

BROAD-BILLED HUMMINGBIRD *Cynanthus latirostris* (35). A male was in Orange, ORA, 11 Feb 1991 (DRW; 68-1991). Although this species was seen

regularly from 1976 to 1988 (31 records), this is, strangely, the first accepted record since March 1988.

GREATER PEWEE *Contopus pertinax* (25). One at Peters Canyon, Tustin, ORA, 10–13 Feb 1991 (GMcC; DLD, MAP†; 20-1991) was the second recorded in Orange Co., the first being at the same site 14 years earlier. This bird undoubtedly wintered locally, fitting the well-established fall and winter pattern for this species in California.

SULPHUR-BELLIED FLYCATCHER *Myiodynastes luteiventris* (6). One was photographed at Goleta, SBA, 23–28 Sep 1990 (RFJ†; SEF, PEL, MAP; 163-1990); a color photo was published in *Am. Birds* 45:177, 1991. Many Committee members included in their comments a discussion of the identification of this bird vis-à-vis other species of *Myiodynastes* and related tyrannids, concluding that its plumage was diagnostic for *luteiventris*. The late September date fits within the expected mid-September to early October pattern in California of this highly migratory neotropical species.

GREAT CRESTED FLYCATCHER *Myiarchus crinitus* (34). One was at Pismo SB in Oceano, SLO, 7–10 Oct 1990 (KJZ; JLD; 34-1991). Like the great majority of Great Crested Flycatchers in California, this bird was along the immediate coast; all accepted records are between 4 September and 1 November.

THICK-BILLED KINGBIRD *Tyrannus crassirostris* (8). One at Peters Canyon, Tustin, ORA, 16 Dec 1990–16 Mar 1991 was returning for its ninth consecutive winter (JWr, DLD, JLD, BH, GMcC, MAP; 21-1991).

SCISSOR-TAILED FLYCATCHER *Tyrannus forficatus* (68). One was near Big Pine, INY, 29 Sep–13 Oct 1990 (TH†, JH; SEF, PEL, GMcC, MAP; 157-1990). One was at Upper Newport Bay, ORA, 17 Mar–27 Apr 1991 (BO; JLD, MTH†, GMcC; 70-1991). One was at Lake Cuyamaca, SD, 26–28 Jun 1991 (DDG; GMcC; 89-1991). One was photographed at Furnace Creek Ranch, INY, 23 May 1991 (BHe†; 99-1991). Unlike many vagrants to California, the Scissor-tailed Flycatcher occurs in a complex seasonal pattern, with records for the state in every month of the year (at least one accepted December record will be published in an upcoming CBRC report). The Big Pine bird was a fall vagrant; the Furnace Creek Ranch bird was a spring vagrant. The March record coincided with the first major wave of migrant Western Kingbirds but could also pertain to a wintering bird; the late June record is more difficult to categorize.

WOOD THRUSH *Hylocichla mustelina* (9). One at Harbor Regional Park, Harbor City, LA, 10 Oct 1990 was accepted 9–1 (MH; BPE, BP; 148-1990). The one dissenter based his vote primarily on the brevity of the observation by all three reporting observers and the slightly early date. Four of the eight previously accepted records of this species are from late October and November.

GRAY-CHEEKED THRUSH *Catharus minimus* (14). One was at Pt. Loma, SD, 10–11 Sep 1990 (GMcC†, RAE; 133-1990). It was mist-netted and banded by Bunny Jones and Ginger Johnson on the first date, when McCaskie took in-hand photos. All but two of the accepted records of this species for California are from September and October; this for Pt. Loma establishes the earliest in fall by two days. The only specimen of the Gray-cheeked Thrush for California is of the widespread race *C. m. aliciae* (or *minimus* if the former is not recognized). The records with measurements (e.g, those from SE Farallon I.) conform with *aliciae* and eliminate the smaller and more richly colored Bicknell's Thrush (*Catharus bicknelli*), considered specifically distinct by Ouellet (1993).

GRAY CATBIRD *Dumetella carolinensis* (52). One was photographed near the mouth of the Santa Maria R., SBA, 5 Oct 1990 (SEF†; 183-1990). One was in Costa Mesa, ORA, 19 Oct 1990 (BO; RAE, RAH; 186-1990). One was at Black Rock Fish Hatchery, 10 mi. S of Independence, INY, on 23 Oct 1990 (JH, TH; 218-1990). One was photographed at Pajaro Dunes and Sunset SB, SCZ, 1 Jan–9 Feb 1991 (PJM; SFB, JLD, RAE, EG, MJL, PEL, GMcC, DR, DLS, SBT, RFT†; 14-1991). One was in Joshua Tree woodland near Butterbredt Spring, KER, 1 Jun 1991 (MTH; 76-1991). The first three records fit a well-established fall and early-winter pattern; small numbers are also recorded in late spring, as indicated by the Kern County record.

YELLOW WAGTAIL *Motacilla flava* (8). One was at Crescent City, DN, 12 Sep 1986 (ADB; 134-1992). This species has a well-defined September "window" of occurrence in California; all records are for the immediate coast between 4 and 21 September.

WHITE WAGTAIL *Motacilla alba* (2). A returning adult male was at settling ponds near Saticoy, VEN, 8 Nov 1990–9 Mar 1991 (DDe†, GMcC, MJL, MAP; 188-1990; Figure 3). From 22 Nov 1987 to 6 Mar 1988 and 16 Oct 1988 to 4 Mar 1989 it was about 2 mi. away at a different set of ponds. Because the bird was not seen at all during winter 1989–1990, some Committee members felt the one in 1990–1991 was possibly a different individual, but all agreed that the best scenario was to accept it as a returning bird.

*RED-THROATED PIPIT *Anthus cervinus* (73). Two were on the Oxnard Plain in Port Hueneme, VEN, 30 Sep–3 Oct 1990 (LS; JLD, RJM; 149-1990). Up to two were in the Tijuana R. valley, SD, 13–24 Oct 1990 (GMcC; 158-1990). One in Goleta, SBA, 1 Oct 1990 was identified principally by call note (JLD, PEL; 180-1990). One was near the Santa Maria R. mouth, SBA, 6–7 Oct 1990 (PEL; 1811990). One was in fields near the Oxnard Plain in Camarillo, VEN, 7 Oct 1990

Figure 3. This adult male White Wagtail (188-1990) at the Saticoy settling ponds in Ventura Co. on 17 Nov 1990 was thought to be the same individual present nearby in the winters of 1987–1988 and 1988–89.

Photo by Don Desjardins

(PEL; 182-1990); this site is several miles from that for record 149-1990. One (distant photos) was on SE Farallon I., SF, 24-27 Sep 1990 (PP†; 101991). One was at Thompson Reservoir, Santa Catalina I., LA, 26 Oct 1990 (HLJ; 38-1991).

This Eurasian species, no longer on the CBRC Review List, has a well-defined pattern of vagrancy, primarily to coastal regions, from mid-September through mid-November, with the great majority of records from late September to late October; all of the records above fit this pattern.

YELLOW-THROATED VIREO *Vireo flavifrons* (39). One was near the east shore of Upper Newport Bay, ORA, 3 Jan 1988 (HLJ; 28-1989). The only previous midwinter record was of one in Riverside, RIV, 5 Dec 1969–19 Mar 1970 (Binford 1983). Considerable discussion centered around the question whether the bird at Upper Newport Bay was a Pine Warbler, much more likely in midwinter; these two species are confused frequently in the southeastern United States in winter (J. V. Remsen pers. comm.). One was at Panamint Springs, INY, 13–14 Oct 1990 (GMcC; KLG, KCM, MAP; 151-1990).

PHILADELPHIA VIREO *Vireo philadelphicus* (81). One was on Pt. Loma, SD, 22–26 Sep 1990 (LSa; GMcC; 152-1990). One was near the Carmel River mouth, MTY, 6 Oct 1990 (KVV; 173-1990). One was at Galileo Hill Park, KER, 19 Oct 1988 (REW; 66-1991). One was collected at Harper Dry Lake, SBE, 11 Oct 1990 (#SBCM 52732; 54-1992); this bird proved to be an immature female. One was at the Smith R. estuary, DN, 4 Sep 1990 (ADB; 135-1992). The last represents the first for Del Norte County; Mendocino County, relatively undercovered, is now the only county on the immediate coast lacking a record of this species.

YELLOW-GREEN VIREO *Vireo flavoviridis* (29). One was in Golden Gate Park, SF, 23–26 Sep 1990 (SWM; JM, RST; 139-1990). One at Pt. Loma, SD, 7–17 Oct 1990 (GMcC, AME; 155-1990), was seen by several observers during this period, but documentation was submitted only for 7 and 14 Oct. This problem is a recurring one, and all observers are encouraged to send in descriptions, both to increase the quality of documentation of records and to fill in date spans. All but one of the California records of this species are coastal, and all fall between 8 September and 30 October.

BLUE-WINGED WARBLER *Vermivora pinus* (12). A singing male was photographed at Huntington Central Park in Huntington Beach, ORA, 28 May 1990 (DRW; MH†; 105-1990). Of the 12 California records, seven are for May and June; this, however, is only the second spring record for the coast.

BLUE-WINGED × GOLDEN-WINGED WARBLER *Vermivora pinus* × *chrysoptera* (3). A Brewster's-type hybrid was captured and banded on SE Farallon I., SF, 6 Jun 1991 (PP†; 80-1991; Figures 4 and 5).

GOLDEN-WINGED WARBLER *Vermivora chrysoptera* (41). A male was in Moss Beach, SM, 22–24 Sep 1990 (RST; JM, BDP; 141-1990). A male was at Morongo Valley, SBE, 27 Oct 1990 (MAP; DLD; 164-1990). A male was at Lake Palmdale, LA, 21 Sep 1990 (JKA; 195-1990). A male was banded and photographed on SE Farallon I., SF, 3 Jun 1991 (PP†; 79-1991); a color photograph was published in *Am. Birds* 45:1179. A singing male was along Keys Creek, midway between Pala and Valley Center, SD, 22 May 1991 (EL; 91-1991). A female was in the Tijuana R. valley, SD, 15 Dec 1990 (REW; 104-1991).

These records engendered considerable discussion of age criteria in this species. The Committee concluded that the males were best left unaged, except for the one on SE Farallon bird, identified in the hand as a second-year bird by the shape, wear, and faded colors of the rectrices and remiges.

Figures 4 and 5. These pictures of a Brewster's (Blue-winged × Golden-winged) Warbler (80-1991), taken on SE Farallon I. on 6 Jun 1991, are the first from California to be published in color. This is only the third record of this hybrid for California.

Photos by Peter Pyle

Figure 6. This Louisiana Waterthrush (78-1991) is the first for northern California. It was found on SE Farallon I. on 2 Jun 1991.

Photo by Peter Pyle

Figure 7. California's fourth Brambling (196-1990) was widely seen in Santa Cruz, Santa Cruz Co. This photo was taken on 31 Dec 1990.

Photo by Bob Hefter

PINE WARBLER *Dendroica pinus* (40). A male was in Morro Bay, SLO, 20 Dec 1988–3 Feb 1989 (TME; 31-1989). A majority of Committee members felt this bird was probably not the same individual there 19 Dec 1987–29 Mar 1988 (Pyle and McCaskie 1992). A male (immature?) was in the Tijuana R. valley, SD, 17–19 Oct 1990 (GMcC; 160-1990). A female-plumaged bird was in San Diego, SD, 3–21 Mar 1991 (GMcC, MAP; 49-1991). Even though this species is an early spring migrant in eastern North America, the early March date and lengthy stay strongly suggest that the last bird wintered locally. All Pine Warblers in California have been in fall and winter except for one on 31 May 1984 at Furnace Creek Ranch, INY (Roberson 1986), a singing male 5–6 Jun 1987 at Torrey Pines SP, SD (Langham 1991), and one on 7 Apr 1984 at Clear Creek Station, LA (Bevier 1990); the last may also have wintered in the vicinity.

YELLOW-THROATED WARBLER *Dendroica dominica* (61). One at Pismo SB, Oceano, SLO, 30 Sep–2 Oct 1990 (KJZ†, MJL; 143-1990) showed the characters of the expected race *albilora*.

GRACE'S WARBLER *Dendroica graciae* (26). One was in Montecito, SBA, 23 Sep 1990–25 Feb 1991 (PEL, SEF, GMcC; 1771990). From its relatively dull plumage it was a female, probably immature, and thus not a repeating wintering bird (males have wintered nearby). A female-plumaged bird was at Deer Spring, MNO, 26 Jun 1991 (WDS; 111-1991) and represents the first accepted record north of San Bernardino County, though Johnson and Garrett (1974) noted some expansion of the breeding range.

WORM-EATING WARBLER *Helmitheros vermivorus* (58). One was banded at Palomarin, MRN, 4 May 1979 (KH†, DDeS; 24-1989).

LOUISIANA WATERTHRUSH *Seiurus motacilla* (5). One was banded and photographed on SE Farallon I., SF, 2–3 Jun 1991 (PP†; 78-1991; Figure 6). In-hand criteria suggest that bird was in its second calendar year; though there was speculation based on its dull plumage that it might have been a female, this species cannot be sexed by plumage characters. This is the first record of this species for the thoroughly worked Farallon Islands and for anywhere in northern California.

KENTUCKY WARBLER *Oporornis formosus* (59). One was on Pt. Loma, SD, 14–17 Sep 1990 (DWA, GMcC, MAP; 130-1990). One was in Pacific Grove, MTY, 21–29 Oct 1990 (DR†, BJW; 162-1990), the first for well-covered Monterey County. One was banded and photographed on SE Farallon I., SF, 1–3 Oct 1990 (PP†; 12-1991). Of the 12 Kentucky Warblers recorded for SE Farallon, this bird, a hatch-year male, was only the second in fall. A singing male was at Scotty's Castle, Death Valley NM, INY, 31 May–1 Jun 1991 (JH, TH; GMcC, MAP; 71-1991). One was banded and photographed on SE Farallon I., SF, 2–4 Jun 1991 (PP†; 77-1991). One was at California City, KER, 19 Oct 1984 (JCW; MTH; 216-1992). Though this represents the first record for Kern County, 15, all but one in spring, have been accepted through 1992.

MOURNING WARBLER *Oporornis philadelphia* (73). One was at the Carmel R. mouth, MTY, 28 Sep 1990 (GWL; 142-1990). One was at Gaviota SB, SBA, 13 Sep 1990 (PEL; SEF; 176-1990). One was along Carpinteria Creek, SBA, 23 Sep 1990 (PEL; 178-1990). One was banded and photographed on SE Farallon I., SF, 30 Sep 1990 (AB, PP†; 11-1991). One was at Mad River County Park, HUM, 5–8 Sep 1990 (GSL, LPL; BBA, SWH; 64-1991). These fall records fit a well-established pattern. A female was banded and photographed on SE Farallon I. 7–11 Jun 1991 (PP†; 81-1991); though this is the 37th record for the island, it is only the first of a female in spring.

CONNECTICUT WARBLER *Oporornis agilis* (61). One was on Pt. Loma, SD, 14–15 Sep 1990 (GMcC; 129-1990). One was at Stovepipe Wells, Death Valley NM, INY, 22 Sep 1990 (MAP, KAR; 167-1990). One was at Scotty's Castle, Death Valley NM, INY, 22–27 Sep 1990 (KAR; JLD†, JH, TH, MAP; 168-1990). One was in Goleta, SBA, 28–30 Sep 1990 (SEF, PEL; 179-1990). One was 4 mi. S of Half Moon Bay, SM, 22 Sep 1990 (RST; 1871990). One was banded, measured, and photographed on SE Farallon I., SF, 18 Sep 1990 (RPH†; 9-1991). These fall records fit a well-established pattern for this species in California; all but five state records are from 1 September to 22 October, and over half of these are for the latter half of September. The two for Death Valley are only the second and third records for interior California.

SCARLET TANAGER *Piranga olivacea* (75). One male was on Pt. Loma, SD, 14–16 Oct 1990 (GMcC, JLD; 159-1990). One male at Mojave, KER, 19 Oct 1990 (MTH, JCW†; 202-1990) was the first for Kern County. One was in Costa Mesa, ORA, 12 Nov 1990 (RAE, RAH; 45-1991); the bird was possibly present several days earlier, when briefly seen by RAH.

PYRRHULOXIA *Cardinalis sinuatus* (12). A male was on San Miguel I., SBA, 19–23 Jul 1990 (DAG†; 140-1990; photo published in *Am. Birds* 44:1188). This represents the first record for the Channel Islands and is an amazing example of vagrancy. The question of possible captive origin has been raised with all coastal sightings, but the consensus of the Committee was that natural occurrence was more likely on this remote island.

PAINTED BUNTING *Passerina ciris* (36). One was in Cambria, SLO, 18–19 Sep 1988 (JHa, GPS, KHa; 235-1988). One was in Goleta, SBA, 18 Sep 1989 (ABi; SEF, PEL; 157-1989). One was at Furnace Creek Ranch, INY, 25 Sep 1990 (PEL, JLD; 170-1990). One was near Cantil, KER, 6 Oct 1990 (RAE; MTH†; 203-1990). The Committee engaged in its usual discussion of natural occurrence, weighing such factors as coastal vs. interior localities, spring vs. fall dates, adult male vs. other plumages, and urban vs. rural habitats. Many records also generated discussion about ageing and sexing. Most Committee members were conservative with ageing female-plumaged birds, given the complexity of molt in *Passerina* buntings (see Thompson 1991).

LE CONTE'S SPARROW *Ammodramus lecontei* (19). One was at the Santa Clara R. estuary, VEN, 23–24 Sep 1990 (RJM, BHe†; 185-1990). The submitted descriptions were not convincing in themselves, but the photographs were identifiable, and suggested that the bird was an immature, retaining some juvenal plumage.

SNOW BUNTING *Plectrophenax nivalis* (44). Two were at Lower Klamath NWR, SIS, 30 Oct–11 Nov 1989 (JO, BEDe, RE; 124-1989). Although there was no question about the identification of these birds, resolving the date span proved more difficult. Two were at Bear River Ridge near Scotia, HUM, 2–10 Nov 1990 (GH; BBA, GSL; 65-1991). One was at Tule Lake NWR, MOD, 27 Dec 1990 (MFR; 108-1991). One was at Lower Klamath NWR, SIS, 2 Dec 1990 (CY†; 180-1991).

COMMON GRACKLE *Quiscalus quiscula* (25). One was at Oasis, MNO, 24 May 1987 (CDB; SFB, SEF, JML, PEL, MJL, CAM, GMcC, DR; 140-1987). The record generated considerable debate regarding the reported presence of a second bird. Even though the first bird was accepted on the first circulation, the Committee took three additional rounds discussing the second; on the final round the vote was 6–4 in favor of accepting two birds, not enough for approval. Another was at Fish Springs, south of Big Pine, INY, 12 Dec 1990 (JH, TH†; 50-1991); this represents the latest fall record for the interior. A male was at the Smith R. mouth, DN, 24 Sep 1990 (ADB; 235-1992), the third record for Del Norte County.

BRAMBLING *Fringilla montifringilla* (4). One was in a residential area in Santa Cruz, SCZ, 15 Dec 1990-16 Feb 1991 (DV, PR; SFB, PDeB, JLD, TF, BHe†, CK, PEL†, EL†, MJL, GMcC, JM, JO, MAP, DR, DLS, SBT; 196-1990; Figure 7). This widely seen bird was recorded on videotape, broadcast on a local television news program! It represents the fourth record for California, all for late fall and winter.

RECORDS NOT ACCEPTED, IDENTIFICATION QUESTIONABLE

YELLOW-BILLED LOON *Gavia adamsii*. An interesting rerort was of one at Eureka, HUM, 16 Apr–1 May 1988 (202-1988). Distant photos suggested this species, giving a sense of a pale bill, but the description specified a pale gray culmen. The record circulated four rounds with the final vote evenly split, 5–5. One in Abbott's Lagoon, MRN, 20 Aug 1990 (192-1990) failed to gain any votes on the first round. The bird was said to have a pale gray bill, which with the unusual date caused considerable concern.

WEDGE-TAILED SHEARWATER *Puffinus pacificus*. An intriguing description was received of one along the shore at Pt. Reyes, MRN, 16 Dec 1989 (205-1989). Another, from an experienced pelagic observer, was of one seen 60 n. mi. off San Nicolas I., VEN, 16 Jan 1991 (67-1991). The first was said to have glided on bowed wings, a feature good for this species. However, the descriptions of the tail length and shape, as well as wingbeats, differed greatly between observers. The record failed 3–7 on the second round. The observation off of San Nicolas I. was too brief and lacked details on bill color and tail length and shape. California still has only two records of this species: off Pt. Pinos, MTY, 31 Aug 1986 (Stallcup et al. 1988) and the remarkable stray at the north end of the Salton Sea, RIV, 31 Jul 1988 (McCaskie and Webster 1990).

TOWNSEND'S SHEARWATER *Puffinus auricularis*. One was reported near Cordell Banks, west of Pt. Reyes, MRN, 28 Oct 1990 (165-1990). This would have been a first record for California and the United States but was rejected 3–7 on the third round. All Committee members were impressed with the level of documentation, in both the thoroughness of the descriptions and the number of submitting observers (19). Everyone agreed that an interesting small black-and-white shearwater was seen. Furthermore, the bird showed white "saddles" on the sides of the rump, a feature of this species. The undertail coverts were thought to be dark, but there was not a consensus on this point. As is so typical with pelagics, the observation was rather brief, in this case less than a minute. Questions about the undertail covert color and no black being noted in the axillaries (a mark Townsend's should show) led the majority to reject. Some members wondered whether the Manx Shearwater (*P. puffinus*) was eliminated, which might find these cold waters more attractive. At least one of the observers now believes this record does pertain to a Manx. Manx shows some degree of white "saddles" (Howell et al. 1994). One or more possible Manx shearwaters photographed off central California in fall 1993 are currently circulating through the Committee. Pyle has noted an anomalous Black-vented Shearwater (*P. opisthomelas*) showing white saddles. It is apparent that we still have much to learn here about the occurrence of small shearwaters off of our coast.

BAND-RUMPED STORM-PETREL *Oceanodroma castro*. A report of nine seen 115–175 n. mi. SW of San Nicolas I., VEN, 20 Jul 1989 (107-1989) has raised again the issue of the identification of this difficult species. The observer, one of our most experienced with pelagics, shares the opinion of the majority of Committee members that we are still learning about the identification of Band-rumped and Leach's (*O. leucorhoa*) Storm-Petrels and that this record should not be accepted at this time. Leach's may vary substantially in the amount of white it can show wrapping

RECORDS NOT ACCEPTED, identification questionable, Cont.

around the base of the tail and in flight characteristics. The depth of the tail fork seems to be a reliable measurement but can be exceedingly difficult to judge accurately in the field. Some feel that the Band-rumped is likely in our waters but that photographic or specimen evidence may be necessary to prove this. At a minimum our level of knowledge must be increased.

One 15 n. mi. W of San Nicolas I., VEN, 25 Jul 1989 (22-1991) was unanimously rejected, as the description was very brief.

The true status of this species in our waters is causing substantial debate within the Committee. There is one accepted record: 12 Sep 1970 off San Diego, SD (McCaskie 1990). Because of the issues discussed above, the Committee voted at its 1994 annual meeting to recirculate the 1970 record for further evaluation.

MASKED BOOBY *Sula dactylatra*. An adult was reported from San Elijo Lagoon, SD, 14 Nov 1987 (57-1988). It was apparent that a white booby with a black tail was seen. However, many members were concerned about the face's being described as "vivid blue," as the bare facial skin of the Masked Booby should be black, or subtly dark blue. The Red-footed Booby (*S. sula*) was not eliminated in the opinion of some. The latter may have bright blue at the base of the bill. The record received only two accept votes after three rounds.

BLUE-FOOTED BOOBY *Sula nebouxii*. A report of an unsalvaged dead bird at the north end of the Salton Sea, RIV, 11 Sep 1973 (86-1990), was rejected 4–6 on the third round. No notes were taken at the time, and the recollection was understandably incomplete. Although this species has occurred a number of times at this locale, it usually does so only during "invasion" years. No other reports of this species were received in 1973.

TRICOLORED HERON *Egretta tricolor*. A most unusual heron that may well have been an aberrant Tricolored was seen near Red Hill at the south end of the Salton Sea, IMP, 11 Aug 1990 (29-1991). Distant photos showed a blue-and-white heron with the general pattern of this species in a plowed field. Marks causing concern included tertials with white fringes, patches of white on the scapulars and wing coverts, and traces of bluish on the thighs. The scapulars may have been bleached-out breeding plumes, and the bluish thighs might be matched by a photo in Farrand (1983). However, the tertial pattern caused concern, and some felt the overall coloration looked too pale, more like that of a Little Blue Heron (*E. caerulea*), engendering talk of hybridization. The bird's being in a field, abnormal haunts for a Tricolored Heron, was also a source of concern. Although the record was rejected on the second round, we hope that this lengthy explanation accomplishes a couple of objectives. First, if the bird was not a Tricolored Heron, it was something even more significant. Second, thorough, honest write-ups like this one can greatly increase our knowledge, in turn helping the evaluation of future records.

REDDISH EGRET *Egretta rufescens*. One was reported at the north end of the Salton Sea, RIV, 8 May 1978 (98-1992). This bird was seen by an experienced observer but was not described at the time, resulting in a reject vote by the majority. This case exemplifies the difficulty this Committee has with many older records. Records long accepted have often never been reviewed, and there is little or no documentation for many of them. Various members have suggested that we create a category for these records, as it may be unfair to demand that they stand up to today's standards. There are still no acceptable spring records of the Reddish Egret for the interior of the State.

YELLOW-CROWNED NIGHT-HERON *Nyctanassa violacea*. One at Bodega Bay, SON, 4 May 1991 (87-1991) was rejected 3–7 on the first round. Although the

RECORDS NOT ACCEPTED, identification questionable, Cont.

date is good for an arrival in northern California, the description was brief and incomplete. Also, one of the observers questioned whether the bird was a Great Blue Heron (*Ardea herodias*), a species most unlikely to be confused in this case; this, and the distance of observation, prompted the reject vote.

TRUMPETER SWAN *Cygnus buccinator*. A silent solitary swan was reported from Sierra Valley, PLU, 18 Mar–2 Apr 1988 (111-1988). Identification of silent swans, particularly when there are no other swans for comparison, is perilous. Some of the details were interesting, but a videotape, which surfaced after the voting, was inconclusive according to the two experts who evaluated it and may have better fit the Trumpeter's more common congener, the Tundra Swan (*C. columbianus*). A dead bird was identified as this species by a California Department of Fish and Game employee at Venice I. in the Sacramento–San Joaquin R. delta, SJ, 20 Jan 1989 (53-1989). Measurements were somewhat ambiguous and the specimen was not kept, so a majority rejected the record on the fourth round. Two swans reported near Stockton, SJ, 1 Jan 1991 (59-1991) were seen only in flight. They were said to have a warm pink lateral stripe on the bill; observers are cautioned that many Tundra Swans also show this character, and some lack a yellow loral patch. This is one of the most complex identification issues confronting observers without extensive experience with both species. See Patten and Heindel (1994) for more information.

EMPEROR GOOSE *Chen canagica*. One was seen in flight at Colusa NWR, COL, 8 Dec 1990 (5-1991). The observer, a Committee member at the time, urged a reject vote after spending more time with geese in the Northwest Territories, Canada. His experience revealed greater variation in blue-morph Snow Geese (*C. caerulescens*) than he had previously thought. Reports of Emperor Geese should be detailed enough to exclude the possibility of other "blue" geese.

*TUFTED DUCK *Aythya fuligula*. One in Oakland, ALA, 4 Apr 1991 (75-1991) went 4–6 on the first round. It was described as having a dark back with a "tuft" visible under some conditions. A minority of the committee felt it was a poorly described Tufted Duck but most objected because of such problems as no discussion of the bill and flank color. One at Abbott's Lagoon, MRN, 7 Oct 1981–22 Feb 1982 (163 and 164-1987) was rejected by a split vote after four rounds.

COMMON BLACK-HAWK *Buteogallus anthracinus*. One was reported in the Tijuana R. valley, SD, 1 May 1991 (96-1991). The description was interesting but did not specify the color of the cere or legs, both of which should be bright yellow and obvious on this species. In addition, the bird was compared to a Turkey Vulture (*Cathartes aura*), a species most unlikely to cause confusion. There is only one accepted record: 13 Apr 1985, Thousand Palms Oasis, RIV (Daniels et al. 1989).

ZONE-TAILED HAWK *Buteo albonotatus*. One reported from Finney Lake, IMP, 24 Apr 1960 (93-1988) was rejected 3–7. There was little doubt that the claim was correct, but a majority were troubled by the lack of documentation prepared at the time of the sighting and therefore felt this did not meet the criteria of a "record."

RUFOUS-NECKED STINT *Calidris ruficollis*. One was reported (*Am. Birds* 45:147) from Moonglow Dairy, Moss Landing, MTY, 1–2 Sep 1990 (64-1992). This sighting provoked an extended controversy, but in the end everyone agreed the bird was a Western Sandpiper (*C. mauri*). We also reviewed a published record (*Am. Birds* 35:979) of an adult at the south end of the Salton Sea, IMP, 19 Jul 1981 (214-1992). One of the observers is no longer convinced that an alternate-plumaged Sanderling (*C. alba*) was eliminated; the description is not detailed enough to preclude this species or an adult Little Stint (*C. minuta*).

RECORDS NOT ACCEPTED, identification questionable, Cont.

LITTLE STINT *Calidris minuta*. An adult was reported from Upper Newport Bay, ORA, 9 Jul 1988 (156-1988). This was a single-observer sighting, and photographs were not obtained. At the time there were no records of adult Little Stints in California. Any record as unprecedented as this needs to withstand strict scrutiny, and after four rounds it was one vote short of acceptance.

RUFOUS-NECKED/LITTLE STINT *Calidris ruficollis/minuta*. A juvenile peep at Bolsa Chica, ORA, 16 Aug 1990 was reported as one of these two species (221-1990). Although the bird was described as being quite bright and having a white "V" on the mantle, the Committee was concerned by its similarity to a juvenile Least Sandpiper (*C. minutilla*). Additionally, several parts of the bird, such as the underparts and sides of the breast, were undescribed. Vagrants of *Calidris* need to be thoroughly documented, as this genus presents significant identification challenges.

WHITE-RUMPED SANDPIPER *Calidris fuscicollis*. Two were reported from the Tijuana R. valley, SD, 30 Aug 1990 (128-1990). The descriptions were somewhat incomplete, and the simultaneity of two birds caused some concern. The descriptions seemed better for alternate-plumaged birds, with rusty edges to the upperpart feathers and a thin white "V" on the scapulars. By late August most adult White-rumped Sandpipers are remarkably dull, being mostly brownish with a few dark flank streaks. Juveniles, not yet recorded in California, are late migrants in the East, normally not seen until after mid-September.

BUFF-BREASTED SANDPIPER *Tryngites subruficollis*. An interesting description, possibly of this species, was received from the Santa Clara R. estuary, VEN, 9 Dec 1990 (51-1991). Perhaps a report from mid-September would have received less scrutiny, but a Buff-breasted Sandpiper on 9 December would be the latest for North America. Concerns existed about some "blotchiness" on the belly and the size comparison to a Sanderling. Only two members supported the record.

COMMON BLACK-HEADED GULL *Larus ridibundus*. An adult was reported from the Santa Clara R. estuary, VEN, 9 Nov 1989 (202-1989), another adult was reported from Pigeon Pt., SM, 7 Apr 1990 (57-1990), and a third bird was reported from Shelter Cove, HUM, 27 Jun 1977 (19-1991). The report from Pigeon Point received the most support, though still only three accept votes. The concerns included the dark bill (the Black-headed Gull usually has a bright red bill unless it is in breeding condition, when the bill can darken), the bird's being in basic plumage in April, and the wing's not being seen well enough for its exact pattern to be determined. The bird at the Santa Clara R. estuary was said, among other problems, to have a light iris.

BAND-TAILED GULL *Larus belcheri*. An adult reported from San Nicolas I., VEN, 9 Nov 1987–28 Jan 1988 (76-1988) generated considerable debate, on both identification and natural occurrence issues. The record would have been the first for California. The identification was rejected with two "identification questionable" votes. The eight members supporting the identification noted that the bird was seen on four or five occasions and that the description covered the basics of a distinctive species. The dissenters were concerned that for such a significant record the details needed to be more thorough, to ensure both that the expected race (*L. b. belcheri)* was involved and that hybrids were eliminated.

Had this record passed on identification, it would still have failed on the question of natural occurrence. Gulls are a notoriously difficult group with respect to the natural occurrence of vagrants. They may wander great distances yet may also be kept captive. A Committee member usually makes his or her decision from individual philosophy. In the case of this species, generally restricted to the Humboldt Current

RECORDS NOT ACCEPTED, identification questionable, Cont.

off western South America, there has been a record for Panama. The tremendous gap between the Panama and California records, combined with this bird's location near a major shipping channel, caused dissenters to wait for more evidence that this species could arrive under its own power. As with most controversial "natural occurrence" records, there was no evidence of captivity.

LESSER BLACK-BACKED GULL *Larus fuscus*. Three records were rejected. One was from the Mattole R. mouth, HUM, 11 Jul 1988 (54-1991), another was from the Salton Sea, IMP, 18 Jun 1990 (174-1990), and a third was from Riverside, RIV, 24 Jan 1990 (62-1990). On the Humboldt record, the identification was not made until months after the sighting, and the description was incomplete; it received no accept votes. The Imperial report lacked enough information to support an unprecedented summer occurrence. Some felt that the California Gull (*L. californicus*) was not adequately eliminated; that species can appear quite dark-backed. The photos of the Riverside bird as the photos clearly show a gull with a dark mantle. The Western Gull (*L. occidentalis*), though abundant along the coast, would be exceptional at this location some 60 mi. inland. Committee members felt that a Lesser Black-backed should have dusky head streaking in January (the head was described as pure white). The bill shape and length was hard to determine, but some felt it favored this species. However, foot and leg color were not seen, meaning that acceptance would be based mainly on the bird's "looking like a Western, but being too small and therefore a Lesser Black-backed."

BRIDLED/SOOTY TERN *Sterna anaethetus/fuscata*. A most intriguing report came from Bolsa Chica, ORA, 5 Aug 1990 (138-1990), where this bird was attracted by the colony of Elegant Terns (*S. elegans*). An extensive written description pointed to an adult of one of these two species. All Committee members felt one or the other was involved with the vote split as to which better fit the description. Marks supporting the Bridled included supercilium shape and upperwing contrast (described as recalling that of a Long-tailed Jaeger, *Stercorarius longicaudus*). The lack of a collar and the underwing pattern seemed best for the Sooty. There is only one California record of the Sooty Tern, from the San Diego R. mouth, SD, 27 Sep 1982 (Webster et al. 1990), none of the Bridled. Eight members felt it best not to force a name on this bird, as either species would be remarkable and neither was completely supported by the documentation. In the summer of 1993 another interesting tern, reported as either a Bridled or a Gray-backed (*S. lunata*), was also at Bolsa Chica (*Am. Birds* 47:1150). At this site yet again in 1994, an adult Sooty Tern was reported, currently under review by the CBRC.

THICK-BILLED MURRE *Uria lomvia*. The two rejected records were of birds seen in flight only. One flew past SE Farallon I., SF, 28 Oct 1989 (214-1988); the other was seen from the lighthouse at Pt. Reyes National Seashore, MRN, 28 Jun 1990 (139-1989). Both observers are excellent, with extensive alcid experience. In both cases four dissenting members felt the birds, described as stockier and blacker, may have been correctly identified but that more specific details were needed.

KITTLITZ'S MURRELET *Brachyramphus brevirostris*. Two pairs were reported near Shelter Cove, HUM, 15 Mar 1991 (53-1991). Most members felt that the variation in the amount of white in the face of the Marbled Murrelet (*B. marmoratus*) is not appreciated by most observers, and none was willing to support this record. Also, with only three records south of Alaska, a sighting of two pairs seems improbable.

ORIENTAL TURTLE-DOVE *Streptopelia orientalis*. One reported from Furnace Creek Ranch, INY, 29 Oct 1988 (246-1988) would represent the first record for the

RECORDS NOT ACCEPTED, identification questionable, Cont.

contiguous United States. It was rejected on identification by three members, though it was seen very well by one of our best field observers, with extensive experience with this species in Asia. The supporting details, while good, were not exhaustive, and there were some minor differences between the two descriptions submitted. The dissenters centered most of their arguments on whether the documentation established such a unique record. A debate over whether this species would likely occur as a natural vagrant also ensued. There certainly has been a pattern of records in Europe (Hirschfield 1986), indicating that the species is prone to vagrancy. There are a few records from Alaska, but not all of these are necessarily unassailable. The recent record from British Columbia (Peterson 1992) was for August, earlier than a fall vagrant might be expected. For the Furnace Creek Ranch bird, the late October date seems good, and the location is a famous vagrant trap far from human population centers. In addition to the three reject votes on identification, four members decided there were too many concerns about the bird's origin to accept it as a naturally occurring vagrant, even in the absence of evidence of captivity.

RUDDY GROUND-DOVE *Columbina talpacoti*. A female was reported from the Tijuana R. valley, SD, 22–24 Oct 1988 (69-1989). A male was at the same location 12–20 Oct 1988 (Patten and Erickson, 1994), and two dissenters felt the description was inadequate to establish a second individual. What would have been Orange County's first was reported from Huntington Central Park, Huntington Beach, ORA, 10 Oct 1989 (154-1989). A majority rejected this record on the third round, feeling the description needed to be more complete and that some marks better fit the Common Ground-Dove (*C. passerina*), a common resident in the area. A report from Ridgecrest, KER, 29 Sep 1990 (32-1991) was far too brief; it would have been the first for that county by one day. There was no description of the bill or the covert pattern, leaving many to wonder if the Common Ground-Dove was eliminated. One reported from Desert Center, RIV, 23 Nov 1990 (31-1991), had some support, but the majority felt the brief view in poor lighting was insufficient to ensure the bird was not one of the two Common Ground-Doves present at the time.

RUBY-THROATED HUMMINGBIRD *Archilochus colubris*. An adult male was reported from Pt. Loma, SD, 19 Sep 1990 (33-1991). The vast majority of adult males have migrated south by the end of summer, and although it is conceivable that one could make it here this late in the year, it should have a flawless description. In this case there was no mention of the forked tail usually evident in this species, nor of bill length, flank color, or vocalizations.

YELLOW-BELLIED FLYCATCHER *Empidonax flaviventris*. One was reported at Montaña de Oro SP, SLO, 27 Sep 1989 (13-1990); the observer was acknowledged to be experienced, excellent, and careful by all Committee members, but an uneasiness about accepting a single-observer record of a silent vagrant *Empidonax* seen for only about a minute ultimately led to the record's rejection. Ironically, an accepted Yellow-bellied Flycatcher (Patten and Erickson 1994) was found the same day in Kern County.

GREAT CRESTED FLYCATCHER *Myiarchus crinitus*. A report of one at Pt. Loma, SD, 20 Oct 1974 (95-1988) had not been submitted earlier, and the description received was a recollection written by one of the observers 14 years later. Sightings not documented during or immediately after the fact normally have a rough ride through the CBRC. Those accepting the record cited the date and locality, which fit perfectly within the species' established pattern of occurrence in California, and the observers' giving convincing verbal description to at least two Committee members immediately after the sighting. The record ultimately received a 5–5 decision during a fourth circulation.

RECORDS NOT ACCEPTED, identification questionable, Cont.

SCISSOR-TAILED FLYCATCHER *Tyrannus forficatus*. One was reported in Afton Canyon, SBE, 25 May 1990 (97-1990). The fact that the bird was described as a juvenile troubled some members; no pink or salmon color was described on the bird, and the tail was said to be "relatively short." An inordinate number of Scissor-tailed Flycatcher sightings in California are supported by brief and weak documentation, perhaps because observers feel that the species is obvious enough not to require a detailed description.

VEERY *Catharus fuscescens*. One was reported from a residential area in La Jolla, SD, 14 Sep 1990 (36-1991). Although some characteristics of this species were described, particularly the face pattern, the views were admittedly brief, and the observer indicated less than 100% certainty as to the identification. The record was unanimously rejected.

WOOD THRUSH *Hylocichla mustelina*. One was seen and heard by several observers in Sunnybrae, HUM, 15 Jun 1984 (343-1986; Harris 1991). The brief descriptions submitted to the CBRC were considered by several members to be inadequate to confirm the identification of so rare a vagrant to California. Several experienced observers heard the bird's song, but none offered a detailed description of it, and a taped recording made by one observer was apparently lost subsequently. The record ultimately received 6 supporting votes, but was considered by the four dissenters to be almost certainly good but unfortunately too poorly documented.

EYEBROWED THRUSH *Turdus obscurus*. Two were reported with a flock of American Robins (*Turdus migratorius*) at Pt. Reyes, MRN, 25 Feb 1990 (101-1990). The observer had no previous experience with the species, and all Committee members agreed that the details were inadequate to support a first record for the state. The record was unanimously rejected. As with other recent claims of the Eyebrowed Thrush in California, the Committee felt that the birds were possibly confused with dull American Robins (which can show a pale supercilium), or perhaps with Varied Thrushes (*Ixoreus naevius*).

WHITE WAGTAIL *Motacilla alba*. A report of two in urban San Francisco, SF, 11 Oct 1990 (194-1990) was considered inadequately documented by all ten Committee members. The described black throat (incorrect for an October White Wagtail) and behavior ("swooping from tree to tree") left little doubt that the birds were not even wagtails.

YELLOW WAGTAIL *Motacilla flava*. One was reported at Arroyo de la Cruz, SLO, 23 Sep 1990 (37-1991). Several points in the description, including the call, suggested the Yellow Wagtail, but the views were less than ideal. The observer was not convinced of the bird's identity until some time after the observation, and most Committee members were unconvinced.

SPRAGUE'S PIPIT *Anthus spragueii*. One reported from the Tijuana River Valley, SD, 25 Nov 1990 (39-1991) received only two accept votes on the first round, with many Committee members expressing concern that the bird might have been a relatively unmarked American Pipit (*Anthus rubescens*). The bird's being seen in an open plowed field was atypical for the grass-loving Sprague's.

PHILADELPHIA VIREO *Vireo philadelphicus*. A report of one in Golden Gate Park, SF, 4 Oct 1983 (99-1987) ultimately failed by an 8–2 vote. One reported near the Carmel R. mouth., MTY, 17 Sep 1987 (367-1987) was rejected 4–6. Two were reported on Pt. Loma, SD, 20 Apr 1991 (92-1991); the Committee unanimously considered this report a misidentification because of an unconvincing description and the unprecedented date. Of 84 previously accepted California records, only ten are

RECORDS NOT ACCEPTED, identification questionable, Cont.

for spring, and the earliest of these is for 23 May; no previous report involved more than one individual. The rejected fall records more closely fit the expected pattern and received split votes in four circulations. The Philadelphia Vireo continues to have one of the highest rejection rates of any species reviewed by the CBRC.

A bird collected at Harper Dry Lake, SBE, on 30 Sep 1990 (#SBCM 52709) and published as a Philadelphia Vireo (*Am Birds* 45:152) was reexamined and proved to be a Warbling Vireo (*Vireo gilvus*).

YELLOW-GREEN VIREO *Vireo flavoviridis*. One reported from Upper Newport Bay, ORA, 29 Sep 1990 (154-1990) fits the pattern of vagrancy of this species in California, but the brief views and incomplete description led to a 1–9 first-round vote.

YELLOW-THROATED WARBLER *Dendroica dominica*. One was reported seen on SE Farallon I., SF, 4 Jun 1978 (20-1988), and another was banded there 2–7 May 1980 (21-1988). No description of either bird was recorded at the time, although the former was noted in the Farallon journal to have been of the "white-lored race"; the latter was described only in recollections from two observers written 7 and 8 years, respectively, after the fact. As noted above, votes on such records generally break down along philosophical lines, as no Committee members raised serious doubts that the birds were correctly identified. These two records were defeated by 7–3 and 8–2 votes, respectively.

PINE WARBLER *Dendroica pinus*. One at Pismo SB, Oceano, SLO, 27 Oct 1990 (41-1991) was considered inadequately documented and received a 1–9 decision on the second round.

CERULEAN WARBLER *Dendroica cerulea*. One was reported in Arroyo Grande, SLO, 1 Oct 1989 (17-1990), but a majority of committee members felt the description contained features incorrect for this species.

*PROTHONOTARY WARBLER *Protonotaria citrea*. One was seen by numerous observers in Zuma Canyon, Malibu, LA, 30 Sep–11 Oct 1979 (152-1987). However, not a single observer submitted any real description (although several persons did indicate that the bird was missing its tail). Two Committee members rejected the record on its fourth and final circulation, each indicating that they believed a Prothonotary Warbler was present but that it was incumbent upon the Committee to affirm the adequacy of documentation submitted and not simply the likelihood that an identification was correct.

SWAINSON'S WARBLER *Limnothlypis swainsoni*. One reported on Gazos Creek, SM, 18 Jun 1990 (80-1990) was considered inadequately documented for a potential first state record. The date does accord well with the only other record of this species from the far West, of one in Apache County, Arizona, 12–13 Jun 1981 (Monson and Phillips 1981).

WORM-EATING WARBLER *Helmitheros vermivorus*. One was banded on SE Farallon I., SF, 5 Jun 1973 (204-1987), and another was observed there 28 May 1981 (22-1988). No descriptions of the former bird were available, and the latter bird was documented only with recollections supplied several years after the sighting. The records received eight and seven accept votes, respectively.

CONNECTICUT WARBLER *Oporornis agilis*. One observed on SE Farallon I., SF, 5 Oct 1978 (24-1988) was supported primarily by the statement "perfect clean eyering on drab *Oporornis*"; although a majority of committee members voted to accept this record on all four circulations, it was ultimately defeated by a 6–4 vote. One reported from Galileo Hill Park, KER, 19 Sep 1990 (42-1991) was seen only briefly, although its reported walking behavior certainly suggested this species.

RECORDS NOT ACCEPTED, identification questionable, Cont.

MOURNING WARBLER *Oporornis philadelphia*. One was banded on SE Farallon I., SF, 13–14 Sep 1981 (25-1988); no plumage description was provided, and although measurements presented suggested the Mourning Warbler, the important wing-minus-tail measurement was at or near the overlap zone with MacGillivray's (*O. tolmiei*); the record was narrowly rejected on an 8–2 vote. One reported from Gaviota SP, SBA, 13 Sep 1989 (155-1989) was felt by most Committee members to have probably been a Mourning, but several characters were inadequately described, and the yellow throat is now known not to eliminate all MacGillivray's Warblers (Pyle and Henderson 1990).

BAIRD'S SPARROW *Ammodramus bairdii*. One was reported from near Lake Earl, DN, 18 Sep 1987 (174-1988). This record circulated for four rounds, losing an accept vote each round and ending up at 6–4. There are only three accepted records of this species in California, each supported by a specimen or photograph. Any report based on written details only needs to be thorough.

SNOW BUNTING *Plectrophenax nivalis*. One was reported from SE Farallon I., SF, 26 Oct 1972 (251-1987) but was not supported by any description; a recollection by one observer 15 years after the sighting was considered inadequate documentation by the three rejectors on the fourth and final circulation.

RECORDS NOT ACCEPTED, NATURAL OCCURRENCE QUESTIONABLE (IDENTIFICATION ACCEPTED)

SWALLOW-TAILED GULL *Creagrus furcatus*. An adult was extensively photographed at Pacific Grove and Moss Landing, MTY, 6–8 Jun 1985 (AIB; RAE, KLH, ASH†, JML, MJL, GMcC, JM, GN†, DR, PLT†, REW†; 79-1985); color photos were published in *Am. Birds* (39:958) and by Roberson (1985). The record was the first of this species north of Panama. The question of whether a Swallow-tailed Gull would more likely appear far from home on its own, or with human assistance, generated an emotionally charged debate. The species breeds near the equator, on islands off Colombia and in the Galapagos Islands. It disperses after breeding, so should not be considered sedentary.

After four rounds, a discussion at our annual meeting, expert commentary, and hundreds of pages of documentation and comments, the vote on this record remains evenly split. Truly accidental records (that is, unprecedented records that defy easy explanation and may never be repeated) represent a major challenge for this or any committee, a challenge further complicated when the potential for captivity is difficult to assess. For example, below we reject a Purplish-backed Jay (*Cyanacorax beecheyi*), a species resident in Mexico. Vagrants of this species are not known, and jays are kept caged in Mexico. For most of us, this was a rather straightforward decision. In contrast are two examples from the other extreme: the Golden-cheeked Warbler from SE Farallon I., SF, 9 Sep 1971 (Lewis et al. 1974) and the Arctic Warbler found in Baja California on 12 Oct 1991 (Pyle and Howell 1993). Both of these records are unique but insectivorous passerines are not likely captives, and these two species are highly migratory (and therefore subject to navigational errors). Furthermore, the timing of these two records coincides with the species' expected period of movement. These extremes are much easier to resolve. Such was not the case with the Swallow-tailed Gull.

Many people have been surprised and dismayed at the level of emotion and animosity this record generated, both inside and outside the CBRC. The polarization engendered by this record reflects the differing philosophies discussed in our introductory comments. Regardless of these arguments, nothing concerning the bird's origin is provable.

RECORDS NOT ACCEPTED, natural occurrence questionable (identification accepted), Cont.

Those members who supported the Swallow-tailed Gull as more likely to have occurred on its own had many good arguments. First, gulls have an ability to wander, occasionally being found far from home. Examples could include the Ring-billed (*Larus delawarensis*) in Hawaii (Pyle, in comments) and the Laughing (*L. atricilla*) in the Marshall Islands (Garrett 1987), but the list of examples could be quite lengthy. Second, the Swallow-tailed is a highly pelagic gull. It is not sedentary, wintering along the coast of South America, where it has been found as far south as 36° S (Jehl 1973). Therefore, if a Swallow-tailed Gull traveling that distance traveled in the wrong direction, it would reach the latitude of California. Also, there are no known records of captives; zoos and other sources were not known to keep this species. Although this species occasionally follows boats, the likelihood of one's being held captive then released in our waters must be remote. Finally, the El Niño/Southern Oscillation in 1983 may have been related to the bird's arrival in California. In that year this regular phenomenon was exceptionally strong, and the entire population of this species was displaced from its breeding grounds. It was suggested that a young bird, presumably more susceptible to displacement, wandered into northern waters. As it molted into adult plumage it came ashore with other gulls, perhaps prospecting the area as a potential nesting site; this species generally remains at sea except to breed.

The Committee members who could not support the record all felt that the bird was quite possibly a natural vagrant but could not place it on the state list because of the degree of uncertainty. Doubts centered on a Swallow-tailed Gull's ability to get here on its own. This species is generally tied to cold waters, and would have to cross 2000 miles of warm water to reach the cold California Current. The lack of intervening records (only one questionable report from Panama) means that acceptance of this record greatly expands the known range of this species and has wider implications for its biology. This species' having reached 36° S may or may not indicate it could move to an equivalent northern latitude. The southernmost record may represent only an overshoot of the normal nonbreeding range, only a small percentage of the displacement necessary to bring a Swallow-tailed Gull to California. Dissenters agreed that the proof of captivity is nonexistent; however, people capture birds all too regularly and the fact that one was photographed while being held on a boat shows that this possibility is real, though small. The Swallow-tailed Gull at Monterey occurred two years after El Niño, making any connection tenuous. El Niño recurs regularly, implying that another record should be expected. The Committee concurred that an undisputed record well north of the Swallow-tailed Gull's breeding range would be cause to reconsider this record.

As discussed by Patten and Erickson (1994), we maintain a Supplemental List, created for species not on the state list whose identification is accepted and natural occurrence was rejected, in cases where the majority felt natural occurrence was plausible. At the 1994 annual meeting we unanimously voted to place the Swallow-tailed Gull on this list.

PURPLISH-BACKED JAY *Cyanocorax beecheyi*. An unbanded immature was photographed in Calexico, IMP, 13 Dec 1990 (WRR; 102-1992); the bird had been present since late November 1990. The Living Desert Museum in Palm Desert, RIV, confirmed that two individuals of this species were housed there, but both were banded and accounted for. Committee members unanimously considered the bird an escapee rather than a natural vagrant; the species is a sedentary resident in western Mexico north to southern Sonora. Presumed escapees are known from El Paso, Texas, and from southern California; in fact, a pair apparently bred in the Tijuana

RECORDS NOT ACCEPTED, natural occurrence questionable (identification accepted), Cont.

River Valley, SD, in the 1980s (fide Guy McCaskie). This record once again raised the issue of the origin of Neotropical vagrants along our southern border. The Committee believes that sedentary species are not likely to be natural vagrants, especially when found in urban areas.

PAINTED BUNTING *Passerina ciris*. An adult male was seen in the Tijuana R. Valley, SD, 3 Nov 1979 (DP; 233-1988), and a male was seen in a yard in Coronado, SD, 3 Jun 1989 (EC; 1971989). These records received six and four accept votes, respectively. Records of adult male Painted Buntings always receive extra scrutiny, as are all records from urban regions near the Mexican border.

UNRESOLVED RECORDS

At the 1994 annual meeting, the CBRC voted to "table" three records of the Iceland Gull (*Larus glaucoides*) until the taxonomic status of that complex is better understood. Currently, Thayer's Gull (*L. thayeri*) is considered a species separate from Iceland Gull, the latter including the nominate race and *L. g. kumlieni*. As of this writing the American Ornithologists' Union's Committee on Classification and Nomenclature has not yet made the anticipated move of merging *thayeri* and *glaucoides*. The darker *thayeri* may not even be ranked as a subspecies, if the cline leading into the paler *kumlieni* is too gradual. Whatever the ultimate taxonomic outcome, it appears hopeless for the Committee to attempt to judge the identity of an

Figure 8. This gull, reported as an Iceland, was photographed in Bodega Bay, Sonoma Co. (7-1985). There is still confusion over its identity, and the Committee has not resolved this issue.

Photo by Dan Nelson

Photo by Richard E. Webster

Photo by Arnold Small

Figures 9 and 10. This first-winter gull was photographed on 26 Jan 1986 near San Diego (15-1986). It shows the characters of subspecies *kumlieni* of the Iceland Gull, a most unexpected bird at this locale. The short bill, long primary extension, and barring on the tertials and tail are all visible in these pictures.

UNRESOLVED RECORDS, Cont.

individual bird when species limits are so uncertain. Zimmer (1991) discussed problems posed by variation in Kumlien's Iceland Gull. The records are as follows:

An adult was well studied and photographed at Bodega Bay, SON, 30 Dec 1984–17 Jan 1985 (7-1985). The photographs (e.g., Fig. 8; see also *Am. Birds* 39:206) clearly show a "white-winged" gull in adult plumage. This bird appeared too white for *thayeri* or most *kumlieni*, but in this case the issue is not linked directly to the *glaucoides–kumlieni–thayeri* problem but instead concerned differentiation from the Glaucous Gull (*L. hyperboreus*). The race *L. h. barrovianus*, the one occurring in California, is the smallest race of the Glaucous Gull, and many Committee members wondered if the photographs could eliminate it. Substantial commentary was received from some of the most knowledgeable gull experts in the world. The debate continues, however, as opinions are split.

A first-winter bird was photographed extensively near San Diego, SD, 18–25 Jan 1986 (15-1986). Figures 9 and 10 (see also AB 40:334) show an intriguing gull, far paler than *thayeri*; in fact, the bird appears to be at the pale end of *kumlieni*. The questions surrounding the validity of this record centered on the species-limit questions, as well as on the likelihood of a "real" *kumlieni* occurring near the Mexican border, at the latitude of the southernmost limit of its winter range. Everyone agreed that the bird's identity would not be given a second thought if a similar bird were in New England.

An adult was well studied in Arcata, HUM, 6–23 Feb 1987 (72-1987). Unlike the Bodega Bay adult, this bird did not look like nominate *glaucoides* but rather showed a primary pattern traditionally associated with *kumlieni*. Thus elimination of the Glaucous Gull was not a question. There was some conflict among the written descriptions in eye color, mantle color, etc., but everyone agreed that this bird "showed the characters" of *kumlieni*.

Most Committee members reviewing these records feel that two or three of them represent the Iceland Gull as understood in the past. Much remains much to be learned regarding how far west the pale extreme of this complex breeds and migrates. We hope our declining to put a specific name on these birds does not discourage observers from giving attention to such gulls.

CONTRIBUTORS

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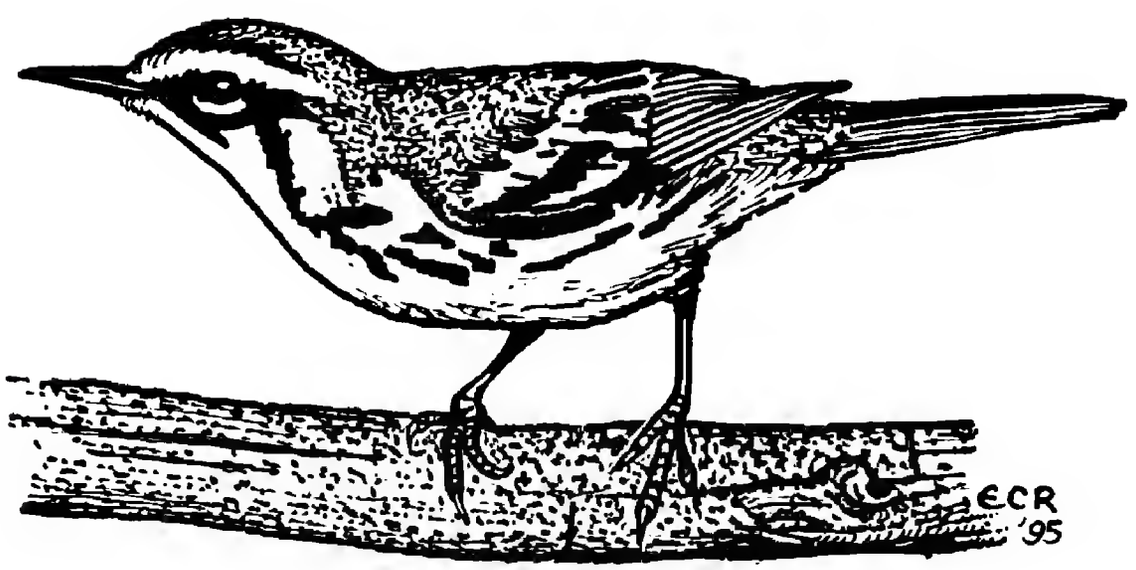

Yellow-throated Warbler *Sketch by Edward Rooks*

GREATER SANDHILL CRANE NESTING AND PRODUCTION IN NORTHEASTERN CALIFORNIA, 1988

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The population of the Greater Sandhill Crane (*Grus canadensis tabida*) wintering in the Central Valley was listed as a sensitive species by the U.S. Fish and Wildlife Service in 1982 and as a threatened species by the state of California in 1983. Many of these cranes breed in northeastern California. In 1988, I surveyed the species' California breeding range, locating nests and following up the fate of selected pairs. Except at Modoc National Wildlife Refuge (NWR), Modoc County, little is known about the nesting biology and success of the Sandhill Crane in California. The objective of this report is to provide such information.

STUDY AREA AND METHODS

The study area included the six northeastern California counties where *G. c. tabida* is known to nest, from the Oregon and Nevada lines west to Montague, Siskiyou County, and south to Sierraville, Sierra County. I surveyed all known and potential Sandhill Crane breeding habitat within this region, examining nests in Big and Ash Creek valleys, Lassen County, and in Jess, Big, and Surprise valleys, near Likely and Alturas, and at Goose Lake, Modoc NWR, and Reservoir C, Modoc County. I counted broods at these locations and at Honey Lake Wildlife Area (WA), in and near Lassen National Forest, in Willow Creek Valley, and on the Madeline Plains, Lassen County, in Sierra and Indian valleys, Plumas County, at Lower Klamath NWR, Siskiyou County, and in and near the Modoc National Forest, Modoc County. In addition, R. Johnstone counted broods elsewhere in Siskiyou County. I did not search the Fall River Valley, in Shasta and Lassen counties, for broods, even though cranes had established territories there in the spring, as there was no water in the nesting marshes by mid-June.

Nests were located between 28 April and 19 May. After locating a nest, I recorded the surrounding vegetation type and height, water depth, and incubation stage. Incubation stage was determined by flotation (Westerskov 1950). I considered incubating cranes poorly concealed when visible at distances >75 m, fairly well concealed when visible at 10 to 75 m, and well concealed when visible only at <10 m. After the normal 30-day incubation period, I revisited the nests and determined their fates. I surveyed selected nesting areas for broods when fledged or nearly fledged young were still within or near their natal territory.

RESULTS

I found nests at eight sites in Modoc and Lassen counties, mostly in Modoc County, home of 59.2% of the 276 known pairs of *G. c. tabida* in California (Littlefield et al. 1994). The sample size was limited because

drought persisting from the previous winter continued through spring and summer 1988, resulting in many pairs' never attempting to nest (Littlefield 1989). Only in Modoc County, particularly near Alturas, did appreciable (>7 cm) rain fall, in late April and early May. This failure of Sandhill Cranes to breed in northeastern California during drought was paralleled in the late 1940s and early 1950s (Naylor et al. 1954).

Of the 56 nests I examined, 22 were on the Modoc NWR, 14 were in Big Valley (in the Ash Creek WA), 8 were in the Ash Creek Valley, 4 were in Jess Valley, 3 were near Goose Lake, 2 were near Likely, and 1 each were in the Surprise Valley, near Alturas, and adjacent to Reservoir C.

Nesting Biology and Ecology

Egg-laying began in mid-April (earliest 11 April), with most pairs laying in late April (latest 11 May). At least one pair nested later, as 6 km northwest of Likely on 9 August 1988 I found a chick under 4 weeks old. It must have hatched from an egg laid between 15 and 21 June.

Most nests were in open wet meadows. Of the 48 nests whose surrounding vegetation was recorded, 21 (44%) were in rushes (*Juncus* and *Eleocharis* spp.), 9 (19%) were in Broad-fruited Burreed (*Sparganium eurycarpum*), 5 (10%) were in grasses, 4 (8%) were in sedges (*Carex* spp.), 3 (6%) were in Hardstem Bulrush (*Scirpus acutus*), and 1 (2%) was in Common Cattail (*Typha latifolia*). The other five (10%) were in various combinations of these vegetation types. The height of the vegetation surrounding the nests averaged 29.6 cm, and water depths ranged from 0 to 33.5 cm, averaging 6.2 cm. Forty-five (80%) nests were poorly concealed, 10 (18%) were fairly well concealed, and only one (2%) was well concealed. The size of the complete clutch was determined in 42 nests, of which 36 had two eggs, five had one egg, and one had three eggs, for an average of 1.91 eggs per clutch.

Nest Success

The average nest success for all areas combined was 37.5%. Thirty clutches (54%) were destroyed by predators, Coyotes (*Canis latrans*) taking 17, Common Ravens (*Corvus corax*) taking 6, Raccoons (*Procyon lotor*) taking 5, and unknown predators taking 2. Three clutches were infertile, and two were abandoned. Success rates varied from site to site.

Modoc NWR (0.8 km S of Alturas). Modoc NWR was one of the few nesting areas having adequate water in 1988. Of the 22 nests examined on the refuge, 11 had eggs that hatched. Raccoons were the most important predator, destroying four clutches. Common Ravens and unidentified predators each destroyed two. Two clutches were infertile and one was abandoned.

Big Valley (Ash Creek WA, 4.8 km NNE of Bieber). Here the success rate was 36% (5 of 14 clutches). Lack of water probably contributed to this low success. Coyotes destroyed seven clutches, all in the southwest portion of the wildlife area; no clutches were lost in the northern portion. One clutch was destroyed by a Common Raven and another was infertile.

Ash Creek Valley (16 km W of Madeline). This valley had very little water throughout the nesting period, and all eight nests examined were unsuccessful. All were crowded into a 10-ha burreed wetland that had been grazed the previous winter by livestock. Nests were poorly concealed, being clearly visible from 1.6 km away. Water depths averaged 6.2 cm, and coyotes apparently had little difficulty in locating and destroying six of the clutches. I saw two coyotes near the nesting marsh in May, indicating a den was nearby. A Common Raven consumed one clutch and another was abandoned.

Jess Valley (14 km E of Likely). Even though all four crane nests examined in this valley were poorly concealed, two clutches hatched. The other two were destroyed by coyotes. Water depths at nest sites averaged only 1.3 cm. W. Fluorney (pers. comm.), who owns a large percentage of the valley, reported that in the past losses of crane nests were due primarily to flooding. He reported some coyotes and raccoons in the area but few ravens; I did note one pair of ravens in May and June.

Goose Lake (4.8 km WNW of Davis Creek). I found only three nests near Davis Creek in May, though an additional pair with a single chick was there in June. The three nests were within an enclosed ungrazed marsh 0.8 km south of Goose Lake on the Lakeshore Ranch. Both clutches in the two nests over water >30 cm deep hatched. The third, among rushes where water had recently receded to 2 cm, was destroyed by a coyote. Two more pairs of cranes apparently nested in the same marsh, but I could not locate their nests.

Likely (1.6 km WNW). Of the two nests I found in this region, one was over 4 cm of water and was subsequently lost to a coyote, seen within 0.4 km of the nest on the day it was discovered, 19 May. The second nest was in a stand of Hardstem Bulrush over 23 cm of water; it was eventually destroyed by a raccoon. There were four other pairs of cranes in the same area but I noted no other nesting activity. On 19 May 1988, most meadows around Likely were dry.

Surprise Valley (29 km E of Alturas). I found only one nest in the Surprise Valley in 1988, although 56 pairs of cranes occupied territories there and four of these fledged a single young each. Fifteen of these were within 3.5 km of Eagleville. The single nest was in a stand of Hardstem Bulrush over 9.5 cm of water on 17 May, but the two eggs were lost to a Common Raven in early June. Most of the Surprise Valley remained dry throughout the 1988 breeding season.

Reservoir C (22 km NW of Alturas). One pair nested 0.8 km south of the reservoir adjacent to Forest Service Road 43N18 in a small wetland among Western Junipers (*Juniperus occidentalis*). The nest was composed of rushes, situated over 20 cm of water. The pair was successful in hatching the two eggs, but neither the pair nor young was seen at this site thereafter. The family could have moved south onto the Antelope Plains, as B. Deuel (pers. comm.), during an aerial survey, saw a pair there in May.

Alturas (3.2 km E). This was the first nest located in 1988, the only one in cattails. Unfortunately, one member of the pair died after colliding with an electric transmission line before 10 May. The nest was in a small cattle-

trampled marsh with little water. The eggs were consumed by a Common Raven, seen during my follow-up visit.

Recruitment of Young

I recorded only 20 young fledged by 224 pairs, yielding a recruitment rate of 4.5%. Of 18 broods observed, two (11%) were of two chicks; 16 (89%) contained a single chick. The two-chick broods were at the Modoc and Lower Klamath national wildlife refuges. Of the 20 young, 10 were raised at Modoc NWR (C. Bloom pers. comm.), 4 were in the Surprise Valley, 1 was near Likely, 1 was in Jess Valley, 2 were at Lower Klamath NWR (J. Hainline pers. comm.), and 2 were elsewhere in Siskiyou County. In addition, a pair at Buchanan Flat, Modoc County, had two well-developed chicks in mid-July, but it was not determined if these survived to fledge.

DISCUSSION

The nest success and recruitment rate of *G. c. tabida* in northeastern California in 1988 were low, most likely as a result of drought. R. Schlorff (unpublished data) surveyed several of the cranes' nesting areas in 1987, recording 10 young in the Surprise Valley, 2 near Likely, 2 at Goose Lake, and 1 in Big Valley, for a total of 15 young at these four sites. Only five young were located at these same sites in 1988, indicating recruitment rates were considerably higher in the region in 1987. Indeed, unlike elsewhere in the Pacific states, in northeastern California Greater Sandhill Crane numbers have been increasing at least since the early 1970s (Littlefield 1982, 1989).

Although the number of nests examined was limited and observations were restricted to a single drought year, the information produced by this study will provide a basis for more detailed studies in the future. Additional data on nesting success, fledging success, predation rates, habitat preferences, disturbance factors, and brood chronology need to be gathered and analyzed, especially in relation to variation in precipitation, to enable the development of management strategies to ensure the continued survival and increase of the Greater Sandhill Crane in California.

SUMMARY

The 224 pairs of the Greater Sandhill Crane surveyed on the Modoc Plateau of northeastern California fledged only 20 young in 1988. This low rate was partially a result of drought drying the marshes where the cranes nest, giving predators (mainly coyotes) easier access to nests. Predators destroyed 30 of the 56 clutches found, and another 5 were infertile or abandoned.

Hatching success reached 50% only at the Modoc National Wildlife Refuge near Alturas, the only area receiving significant relief from drought via spring rains.

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FIRST RECORD OF THE MARBLED MURRELET AND THIRD RECORD OF THE ANCIENT MURRELET FOR MEXICO

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We discovered two Marbled Murrelets (*Brachyramphus marmoratus marmoratus*) and an Ancient Murrelet (*Synthliboramphus antiquus*) at Ensenada, Baja California, in the early afternoon of 9 January 1994. We first saw the Marbled Murrelets from the beach just south of the southern jetty forming Ensenada harbor. Wishing to document the record more fully, and to consider further the possibility that the birds were of the more vagrancy-prone Asiatic race (*B. m. perdix*), we rented a boat at the harbor. After closely viewing and photographing the Marbled Murrelets on the water, we found the Ancient Murrelet along an inner jetty of the harbor.

MARBLED MURRELETS

The two Marbled Murrelets (Figures 1 and 2) remained close to one another the entire time we observed them, diving and foraging over the sandy bottom. They appeared healthy; their alert posture, with heads and tails up, contrasted with that of the Ancient Murrelet seen later. They called several times as we slowly approached them by boat, giving soft quack-like notes ("eh-eh"; S. B. C. Dechesne, unpubl. data) typical of the species. Presumably the same birds were seen again on 11 January by R. E. Webster (in litt.), but they were not found later in the month, despite considerable searching by K. Radamaker, A. M. Sada, L. Santaella, and T. E. Wurster (pers. comm.).

Distinction between North American and Asiatic Marbled Murrelets

Our descriptions and photographs show that the Ensenada birds were *B. m. marmoratus* in basic plumage, not *B. m. perdix*. *Marmoratus* is primarily resident in its North American breeding range, which extends from southern Alaska to Santa Cruz County, California (AOU 1983, Marshall 1988). *Perdix* occurs at similar latitudes in Asia, ranging from Kamchatka and the Commander Islands south to Japan and Korea (AOU 1983). Except in coastal southern California, all previous North American records of the Marbled Murrelet away from the general breeding range have been of *perdix* (Sealy et al. 1991, Sibley 1993).

After examining two specimens of *perdix* at the California Academy of Sciences and observing a live bird in Ontario, Sibley (1993) suggested field characters useful in distinguishing the two forms of the Marbled Murrelet in basic plumage. On 26 January 1994, Erickson examined specimens at the

Figure 1. Marbled Murrelets at Ensenada, Baja California, 9 January 1994. Note the typical murrelet shape and general plumage pattern, white scapulars, extensively white flanks and, in contrast to the similar Kittlitz's Murrelet, longer bill and dark face. The largely white nape and extent of dark below the eye indicate the nominate race rather than *B. m. perdix*. The ages of these birds are unknown: although Bent (1919) suggested that first winter birds are blacker and less gray than adults, Carter and Stein (in press) stated that "by early fall, older juveniles are not distinguishable in the field from after-hatching-year birds in basic plumage."

Photo by Robert A. Hamilton

Figure 2. Marbled Murrelet at Ensenada 9 January 1994. The nearly complete white nuchal collar typical of *B.m. marmoratus* is evident here.

Photo by Robert A. Hamilton

Museum of Vertebrate Zoology, University of California, Berkeley (MVZ), including a large series of *marmoratus* and eight *perdix*, all but one in basic plumage. These specimens revealed that Sibley's recommendations (quoted here and illustrated in Figure 3; see also useful photographs of *perdix* in *Am. Birds* 34:137, 37:206, 48:105 and *Natl Audubon Soc. Field Notes* 48:291) should be tempered somewhat.

1. "*Perdix* shows an entirely dark hindneck; [*marmoratus* has a] nearly complete white nuchal collar." This, the most obvious distinction between the two forms, was borne out by all of the MVZ specimens, as well as both specimens of *perdix* at the San Diego Natural History Museum (P. Unitt pers. comm.). Caution is essential, however, as specimens showed that some juvenile and molting *marmoratus* can have hindneck patterns suggestive of *perdix*.

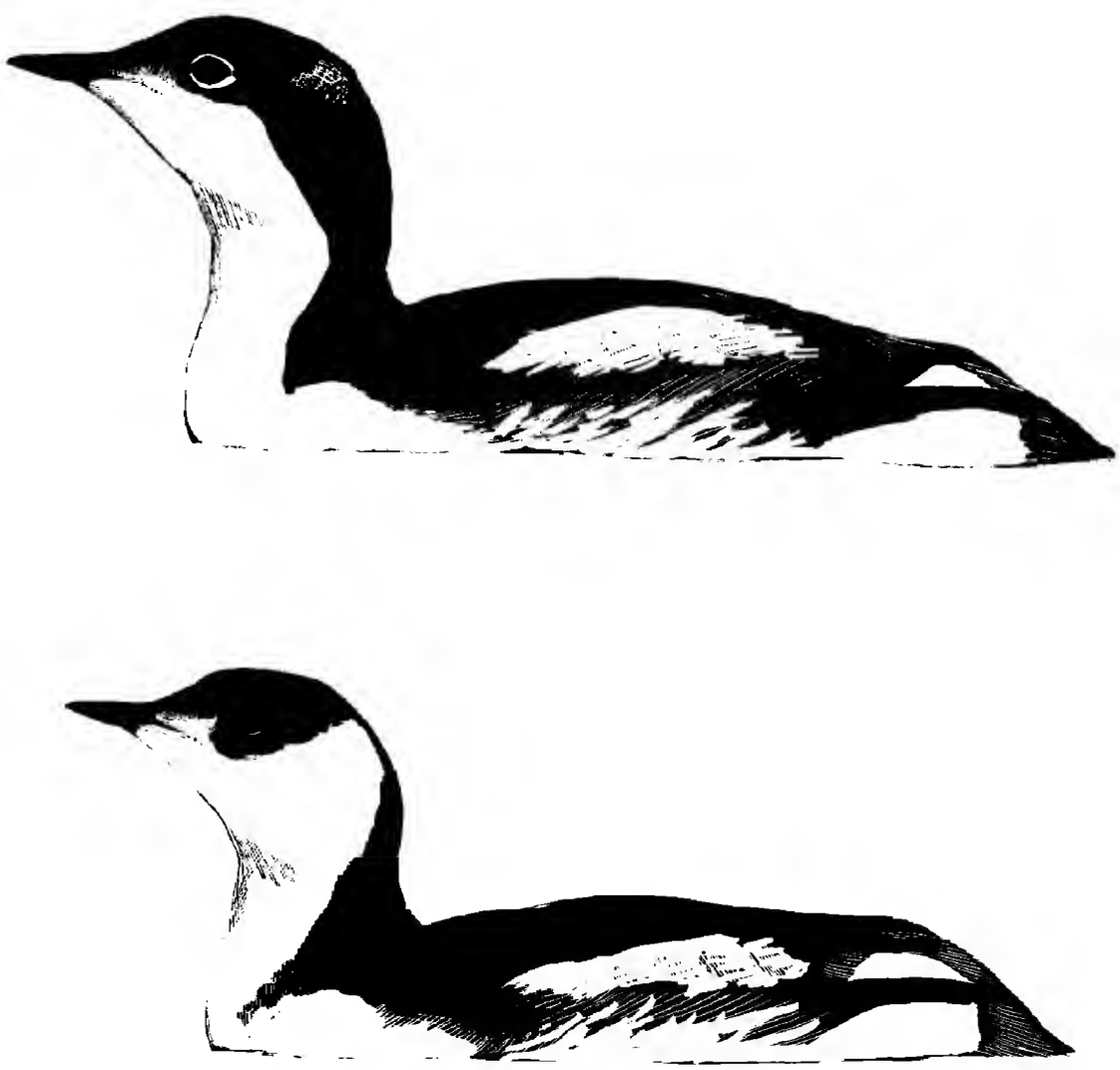

Figure 3. Basic plumages of Asiatic (upper) and American (lower) Marbled Murrelets. This drawing of *perdix* is based entirely on an individual on the St. Lawrence River, Ontario/New York, in October 1993; the drawing of *marmoratus* is based on photos and sketches of numerous birds. See text for further discussion.

Sketch by David Sibley (from *Birders' Journal* 2:277)

2. "*Perdix* shows ... less black below the eye." This was consistent with all MVZ specimens.

3. "*Perdix* shows ... less black on the sides of the breast." This, too, was consistent with all MVZ specimens in basic plumage, though some juveniles of *marmoratus* lacked extensive dark sides of the breast.

4. "*Perdix* shows ... bolder white eye-arcs," (i.e., broken white eye-rings). This mark was earlier suggested by Harrison (1983). Although the MVZ specimens showed this difference to prevail on average, there was complete overlap, with some *marmoratus* showing bold eye-arcs and some *perdix* showing indistinct eye-arcs.

5. "*Perdix* [is] entirely dark above the gape; *marmoratus* shows a broad pale stripe above the gape." Again, the MVZ specimens showed this difference to be of averages only, there being complete overlap in both directions.

6. "Presumably typical of *perdix* is a pair of pale patches on the nape, divided by a darker gray stripe down the center of the nape." This mark was not matched by any of the MVZ *marmoratus* but was not shown by most of the *perdix* either; only two specimens had distinctive patches. As alluded to previously, juvenal and transitional plumages of *marmoratus* may show nape patches if incoming white feathers appear there first.

7. The bill of *perdix* "averages 30% longer" than *marmoratus*. Sealy et al. (1982) found a complete separation at an exposed culmen length of 18 mm. *Perdix* also averages larger in body bulk, 296 g, versus 225 g in *marmoratus* (Piatt et al. 1994). These differences are likely to be difficult to ascertain in the field, especially on lone birds. Note also that Sealy (1975) found fledgling *marmoratus* to weigh an average of only 70.5% of adults and to have exposed culmen lengths averaging 83.8% of adults'.

In all features, the Ensenada birds were typical of *marmoratus*.

Southern Records of the Marbled Murrelet on the Pacific Coast of North America

South of its breeding range, the Marbled Murrelet is nearly annual in the California Current as far south as Point Arguello, Santa Barbara County, primarily in fall and winter (Roberson 1985, Marantz 1986, Lehman 1994). It is irregular farther south, with most records for the Santa Barbara and Los Angeles areas (Webster et al. 1980, Garrett and Dunn 1981, Lehman 1994, *Am. Birds* 35:227, 36:331, 36:894). As it did with the Ancient Murrelet, the winter of 1979–80 brought exceptional numbers of Marbled Murrelets to central and southern California (*Am. Birds* 34:201, 34:303, 34:307; Garrett and Dunn 1981), including the southernmost previously recorded: two at Imperial Beach, San Diego County 15–16 December 1979. Unitt (1984) considered the racial identity of the Imperial Beach birds inconclusive, lacking a specimen, but a photograph in *Am. Birds* 34:307 clearly shows the white hindneck and extensive black below the eye, typical of *marmoratus*. Except for the birds at Ensenada, the species was unrecorded south of Santa Barbara in the winter of 1993–94 (*Natl. Audubon Soc. Field Notes* 48:248).

ANCIENT MURRELET

The Ancient Murrelet at Ensenada was easily approached as it swam just off a jetty within the harbor (Figure 4). Its rather slow movements and slouching manner suggested to us that it was not healthy. Pyle refound the bird later in the afternoon, but it was not seen thereafter, despite the concerted efforts of K. Radamaker, A. M. Sada, L. Santaella, R. E. Webster, and T. E. Wurster (pers. comm.) through the end of the month. There was an irruption of this species in California in the winter of 1993–94, with records from most southern coastal counties and an exceptional inland bird at San Pablo Reservoir, Contra Costa County, 13–22 November (*Am. Birds* 48:149, 48:152; *Natl. Audubon Soc. Field Notes* 48:248).

Among the alcids, the Ancient Murrelet is one of the most prone to vagrancy. It has been recorded as far from its normal North Pacific range as Quebec, Ohio, Louisiana, and England (Munyer 1965, Verbeek 1966, AOU 1983, Waldon 1994). Prior to the one at San Pablo Reservoir, there were only three confirmed inland records for California, of single birds at the north end of the Salton Sea on 16 June 1984 (*Am. Birds* 38:1062) and 23 May 1987 (*Am. Birds* 41:488) and at Mono Lake on 9 December 1985 (Gaines 1988). The location of an undated specimen from Palm Springs reported by Garrett and Dunn (1981) is unknown; we consider the record inconclusive.

Figure 4. Ancient Murrelet at Ensenada, 9 January 1994. The pale bill and gray upperparts contrasting with the uncrested black head are characteristic of this species. The criteria for assessing an Ancient Murrelet's age in winter are poorly known, but the apparently unworn primary coverts visible here may suggest this was an adult.

Photo by Robert A. Hamilton

Along the California coast, the Ancient Murrelet is annual south to San Luis Obispo County (Marantz 1986); it occasionally irrupts to the south (Garrett and Dunn 1981, Lehman 1994). The winter of 1979–80 was especially noteworthy, producing the greatest flight ever recorded in southern California (*Am. Birds* 34:201, 34:307; Garrett and Dunn 1981). Even in that year, very few birds were seen in southern California after the first week of January (*Am. Birds* 34:307).

There are two previous records of Ancient Murrelets in Mexican waters (Howell and Webb in press), of one collected near Ensenada on 25 December 1927 (Grinnell 1928) and five seen near Los Coronados Islands on 24 February 1980, during the invasion (*Am. Birds* 34:307), not in 1975 as stated by Wilbur (1987).

SUMMARY

In basic plumage, the two subspecies of the Marbled Murrelet, *Brachyramphus m. perdix* and *B. m. marmoratus*, differ as follows: *perdix* has an entirely dark hindneck, a narrow band of black below the eye, and limited black on the sides of the breast; *marmoratus* has a nearly complete white nuchal collar, more black below the eye, and extensive black on the sides of the breast. Other plumage characteristics are inconsistent or are average differences only. In addition to the two we photographed at Ensenada, Baja California, on 9 January 1994, all Marbled Murrelet specimens and photographs that we have examined from coastal California south of the species' breeding range have been *marmoratus* on the basis of these criteria. An Ancient Murrelet we photographed at Ensenada on this same date was at the southernmost locality recorded for the species.

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El Marú skillfully maneuvered his boat to allow our observation and photography of these birds. Jon L. Dunn alerted us to David Sibley's published note, and Sibley allowed us to reproduce his drawings. Carla Cicero and Ned K. Johnson arranged for examination of murrelet specimens at the Museum of Vertebrate Zoology, University of California, Berkeley, as did Kimball L. Garrett at the Los Angeles County Museum of Natural History. Stephen F. Bailey, Harry R. Carter, James W. Cornett, Sharon B. C. Dechesne, Thomas M. Edell, Shawneen E. Finnegan, Guy McCaskie, Janet L. Stein, and Walter Wehtje were helpful in our research. Spencer G. Sealy and Philip Unitt offered numerous constructive comments on the manuscript. We thank them all.

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NOTES

INCUBATION AND BROOD REARING BY A WILD MALE MOUNTAIN QUAIL

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The Mountain Quail (*Oreortyx pictus*) is among the most poorly known birds of the American west. No comprehensive study of the species' breeding biology exists (Gutiérrez 1975, 1980). This is unfortunate because Mountain Quail populations have declined significantly in Washington (Wash. Dept. Wildlife 1993), Oregon (K. Durbin, Ore. Dept. Fish and Wildlife, pers. comm.), Idaho (T. Hemker, Ida. Dept. Fish and Game, pers. comm.), and Nevada (S. Stiver, Nev. Div. Wildlife, pers. comm.). Information on Mountain Quail reproduction could benefit management efforts.

Primary accounts of the Mountain Quail provide little information on male and female roles in reproduction (i.e., Coues 1874, Grinnell et al. 1918, Grinnell and Storer 1924, Bent 1932, Linsdale 1936, Miller and Stebbins 1964, Gutiérrez 1975, 1980). Grinnell and Storer (1924:268) stated, "Females, so similar to the males in plumage as not to be distinguishable under normal circumstances, are not in much evidence after the nesting sites have been selected," suggesting an assumption that primarily females tend nests and eggs. Miller and Stebbins (1964:70) noted that many male Mountain Quail have incubation patches, and they collected one such male associated with a brood of one-third-grown young. Incubation by males has been documented for the California Quail (*Callipepla californica*), Scaled Quail (*C. squamata*) (Johnsgard 1988), and Northern Bobwhite (*Colinus virginianus*) (Clark 1903, Curtis et al. 1993). Males of these species also brood young, as do male Gambel's Quail (*Callipepla gambelii*) and Montezuma Quail (*Crytonyx montezumae*) (Johnsgard 1988). Neither incubation nor brooding by male Mountain Quail has been documented, although incubation patches on males imply this possibility (Johnsgard 1973). Here, I report a case of a wild first-year male Mountain Quail successfully incubating a clutch of 13 eggs and subsequently rearing the young unaided by a female.

On 2 June 1993, Dave Pratt located and reported to me a Mountain Quail nest containing 6 eggs in second-growth mixed pine forest in Nevada Co., California (39° 26' 35" N, 120° 16' 04" W). On 16 June, I trapped an adult Mountain Quail on the nest while it incubated. I did not count the number of eggs the day the adult was trapped, but I did notice that the nest contained more than 6 eggs. Two days after trapping, the nest contained 13 eggs, which proved to be the complete clutch. I placed a radio transmitter on the quail, took a blood sample for genetic identification of sex, and inspected its plumage. The quail had buffy-tipped greater primary coverts on the upper side of the wing. Also, primaries 9 and 10 were faded and worn relative to primaries 1-8, a pattern typical of first-year quail. Together, these features indicated the bird was a yearling (Johnsgard 1983). Subsequent genetic analysis, following the methods of Longmire et al. (1993) as adapted to Mountain Quail (unpubl. data), indicated that the quail was male.

I relocated the quail nine times each during incubation and brood-rearing. Relocation times varied from early morning to dusk, and monitoring periods ranged from

brief visits to the nest to as many as 10 hours of continuous monitoring. During incubation, I also photographed and observed the quail for extended periods from a blind 3 m from the nest.

Two days after capture, the male was off the nest for 10 hours before beginning incubation at dusk. Thereafter, during each relocation, I observed the male incubating or, in the early morning, foraging near the nest. Whenever the male was not incubating, I checked the nest for another adult incubating the eggs. I did not observe another quail on or near the nest.

The 13 eggs hatched on approximately 14 July, after which I regularly relocated the male with chicks. I ended each relocation by flushing the male away from the chicks and listening to the subsequent reassembly of the adult and brood. The male and chicks vocalized back and forth until they were reunited. In no case did an adult quail other than the radio-marked male vocalize to assemble the brood. Only once was another adult Mountain Quail observed near the brood. Twenty-six days after the eggs hatched, an adult Mountain Quail flushed with the radio-marked male approximately 10 m from the brood. The radio-marked male quickly returned to the area and, unlike the second adult, which was not seen or heard again, vocalized and assembled the brood. Twenty-nine days after hatching, I observed 12 or 13 chicks with the radio-marked male. My last observation was made 37 days after hatching, when approximately 12 strongly flying young Mountain Quail flushed with the radio-marked male.

Together, these observations imply that a single yearling male Mountain Quail successfully incubated and reared 13 young. Incubation and brood-rearing by males as a regular feature of Mountain Quail reproduction would have strong implications for our understanding of the reproductive and population dynamics of the species. For example, if female Mountain Quail are also able to incubate and rear young alone, which is likely, then "pairs" might be able to rear two broods during one breeding season by employing uniparental care for each brood. This could occur even where the breeding season is too short for two broods to be raised sequentially. Thus, the frequency of uniparental care by Mountain Quail merits further investigation.

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FIRST UNITED STATES NESTING RECORDS OF THE STREAK-BACKED ORIOLE

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In the United States, the Streak-backed Oriole (*Icterus pustulatus*) has been reported primarily as a casual fall and winter visitor to southern Arizona and southern California. Its main range extends from the western lowlands of Mexico south to Costa Rica in Central America (American Ornithologists' Union 1983). In the Mexican state of Sonora it nests in tropical thorn scrub and deciduous forests (especially riparian) north to about latitude 30° N, the northernmost known nest having been found about 175 km south of the international boundary at Félix Gómez (S. Russell and Monson, unpubl. manuscript).

On 6 June 1993, Corman observed a dull-plumaged female Streak-backed Oriole carrying nesting material along the San Pedro River near Dudleyville, Pinal County, Arizona. This location is almost 280 km north of the nearest known nest site in Sonora. She was accompanied to a nest by an adult male Streak-backed Oriole (Figure 1). The nest appeared to be less than a week under construction. Only the female worked on the nest. The male joined her there periodically but did not bring material or help with any construction.

Monson visited the site on 8 June and located a larger, apparently completed nest approximately 130 m from the nest under construction, without realizing it was not the nest found by Corman. During his visit no activity was discernible at this nest, although an adult male was nearby and a brighter adult female was observed flying past.

Corman revisited the nest under construction on 16 and 17 June and spent many hours watching and videotaping the slow progress of nest building. The dull-plumaged female brought pieces of nesting material one at a time, with some of her visits being more than 30 minutes apart. In the early morning and early evening, the male came into the nest tree each time the dull-plumaged female flew in with nesting material. During the late morning and throughout the afternoon, however, he did not appear very often (once in 2 hours was average).

Not until his next visit, on 23 June, did Monson discover that he and Corman were watching separate nests. Corman visited both nests on 26 June. There was still no activity at the completed nest, but the dull-plumaged female appeared to have completed the outside of the active nest and was adding lining to the inside.

Monson visited both nests on 9 July and saw no activity at the completed nest. The adult male and dull-plumaged female were near the newly finished nest, but neither went into it. Two days later Corman found the dull-plumaged female apparently incubating in her newly completed nest. Surprisingly, when the other nest was checked, the brighter plumaged female was relining the nest with very fine material (Figure 2). She made many trips to the nest during the hour or so it was under surveillance. The adult male also showed up briefly a few times with the brighter female.

We revisited both nests intermittently until 4 August. Except on 11 July, the nest completed earlier appeared inactive. The brighter female may have attempted a nesting or brought off a brood before the nest's discovery on 8 June. The adult male and dull-plumaged female were observed bringing food to the first nest from 20 July through 2 August, the degree of participation by each seemingly being equal. On 30 July, the dull-plumaged female was observed chasing the brighter female from a tree next to the active nest tree. Young could not be seen but were heard begging and their

motion inside the nest was noticeable on several occasions. The possibility that the begging and movement were of a young cowbird (*Molothrus* sp.) could not be discounted. On a last visit, on 4 August, neither adult nor young Streak-backed Orioles could be found at or near the nest.

We infer that the adult male was paired with both females. The two nests were close enough for him to do this easily, and the birds were not raising young in both nests simultaneously. Polygyny could also explain his long absences during nest construction. The dull-plumaged female was never observed near the nest discovered by Monson, and the brighter adult female was observed only once briefly near the tree with the active nest.

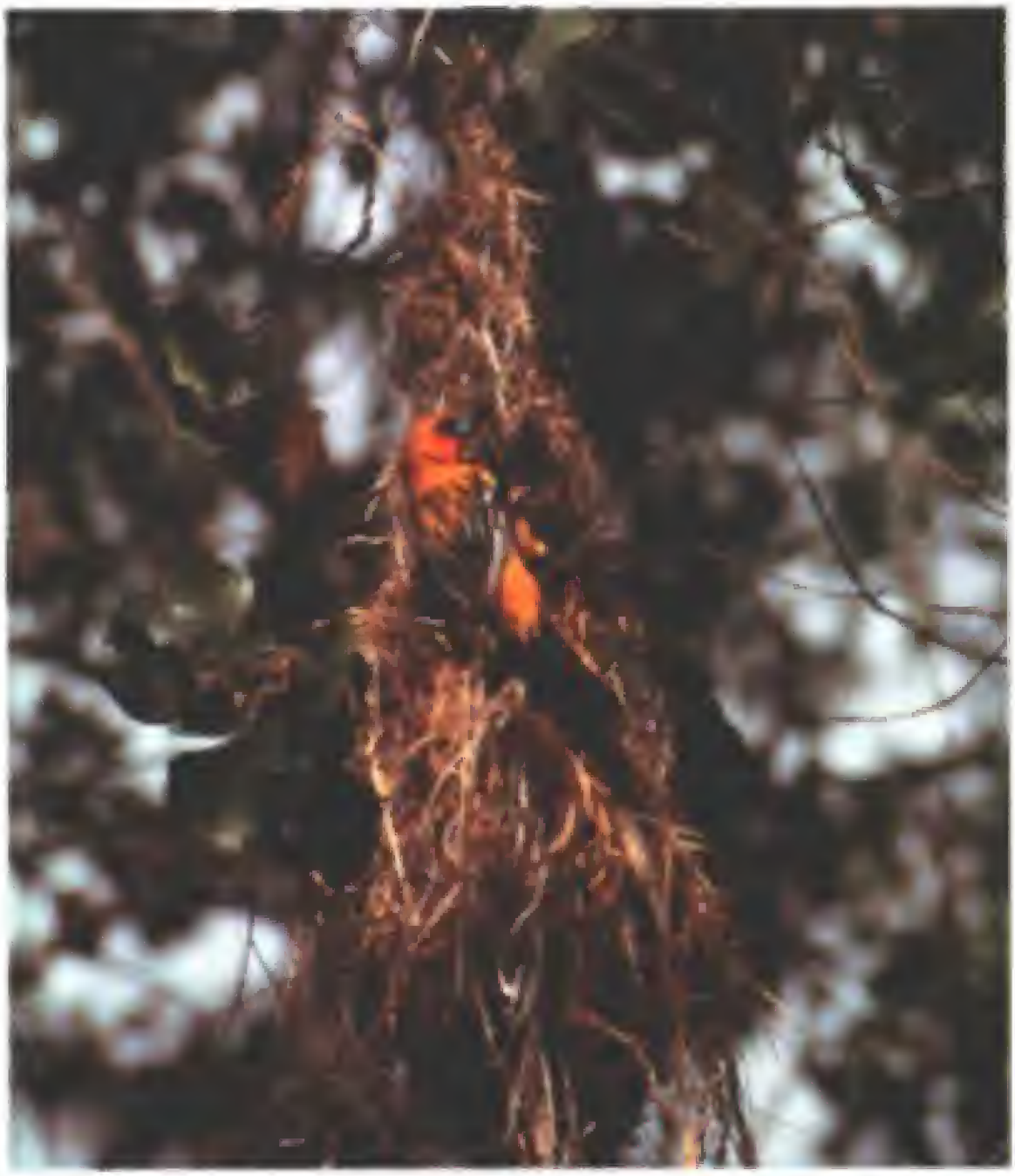

Figure 1. Adult male Streak-backed Oriole about to enter nest, with food, near Dudleyville, Pinal Co., Arizona, 17 July 1994.

Photo by Troy Corman

Both nests were large, being approximately 40 to 50 cm long (Figure 3). This is much longer than nests of other western U. S. orioles, which are typically 10 to 16 cm long. Each was supported from the ends of twigs about 8 m above ground in Fremont Cottonwoods (*Populus fremontii*) 18 to 20 m tall. Much of the nest material was strips from the lining of dry cottonwood bark with some grasses. The nests were loosely constructed, with some material dangling from adjacent limbs above the nests and from the bottom of the nest structures. The other chief plants in the surrounding riparian woodland were Goodding Willow (*Salix gooddingii*), Seepwillow (*Baccharis salicifolia*), Velvet Mesquite (*Prosopis velutina*), and Salt Cedar (*Tamarix pentandra*). Interestingly, three other primarily Mexican species at the northern edge of their known ranges, the Gray Hawk (*Buteo nitidus*), Tropical Kingbird (*Tyrannus melancholicus*), and Thick-billed Kingbird (*Tyrannus crassirostris*), were nesting near (in the same tree in the case of the last) the orioles.

These birds returned to the same general location in 1994. This year, however, two separate pairs nested. The nests were farther apart than the previous year, approxi-

Figure 2. Adult female Streak-backed Oriole with material to line inside of nest near Dudleyville, Arizona, 11 July 1993.

Photo by Troy Corman

mately 220 m. Nesting also appeared to begin a week or more earlier than in 1993. Young were being fed by mid-July in both nests, and on 24 July a fledgling oriole was observed with both parents near one of the nests.

Surprisingly, another pair, an adult female and a bird thought to be a first-year male, were found by George Hentz on 9 June 1994. The female of this pair was observed constructing a nest in a bare dead pecan tree near the Santa Cruz River northwest of Marana, Pima County. This nest was extremely long, at 66 cm, and constructed primarily of grasses. The nest was found on the ground on 29 June after high winds the evening before and contained shell fragments from a single egg. The female almost immediately started a new nest on the old nest's limb. She continued working on the nest through 13 July. This nest was shorter than the first (52 cm). On July 16, this nest and the limb attached to it were found hanging from an adjacent tree. The orioles could never be relocated.

Little natural-history information is readily available for this species, so we summarize our observations in Arizona. The song and chatters of this species are much like

Figure 3. Nest of Streak-backed Oriole near Dudleyville, 30 July 1993.

Photo by Troy Corman

those of Bullock's Oriole (*Icterus galbula bullockii/parvus*) and were heard primarily near the nest. During the nesting period, a true song given by the male was heard on only a few occasions. Females appeared to sing a partial song, sometimes from the nest. The common call given by both sexes was a low "wrank" reminiscent of the higher "weenk" call of the Hooded Oriole (*Icterus cucullatus*).

Nest construction is accomplished only by the female and takes approximately 25 days. The site selected is in fairly open situations, under the canopy of the tree, 6 to 8 m above the ground. At all active nests, construction evidently began in early June. The eggs were laid during the last few days of June or in early July, possibly in association with the beginning of the summer "monsoon" season.

The female alone incubates. The incubation and nestling periods appear to be much like those of other North American orioles (Bent 1958, Ehrlich et al. 1988), taking approximately 12–14 days for incubation and about 14 days for fledging of the young.

Although there may be no direct connection with the nesting individuals near Dudleyville, Monson observed a wintering adult male Streak-backed Oriole at Cook's Lake, about 6 km south of the oriole nests, on 25 January 1990 [*American Birds* (*AB*) 44:305, 1990]. What may have been the same individual was seen subsequently on 5 October 1990 by Gary Rosenberg, David Stejskal, and Chris Benesh (*AB* 45:137, 1991), on 17 January and 29 March 1991 by Diane Laush (*AB* 46:298, 1992), on 27 February 1992 by Tom Gatz and Diane Laush (*AB* 47:286, 1993), on 23 January 1993 by Diane Laush (pers. comm.), and on 13 April 1994 by Monson (*Natl. Audubon Soc. Field Notes* 48:327, 1994). Yet no Streak-backed Orioles or their obvious nests have ever been found in the immediate Cook's Lake area during the summer.

This first nesting of the Streak-backed Oriole north of Mexico may be related to the changing status of other primarily Mexican species. Within the past 10 years, several, especially riparian species have colonized Arizona. Only time will tell if the oriole will follow the Green Kingfisher (*Chloroceryle americana*), which has gone from a casual fall and winter visitor in Arizona to a rare breeding resident. The Streak-backed Oriole may parallel other species, such as the Eared Trogon (*Euptilotus neoxenus*), Black-capped Gnatcatcher (*Polioptila nigriceps*), and Rufous-capped Warbler (*Basileuterus rufifrons*), that occasionally disperse north into Arizona and attempt nesting. Such species appear to persist or return each year, perhaps until eliminated by fire, bad weather, or some such catastrophe.

We thank Tom Huels, Dwight Lee, David Stejskal, and especially Deb Treadway for all the time they contributed and effort required in taking notes and watching the progress of the nests. We also thank George Hentz for his surveillance, detailed notes, and photos of the Santa Cruz River pair and Gary Schafer for videotaping nest-building. This note was improved by comments and suggestions from Gary Rosenberg and Philip Unitt.

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FIFTY YEARS SINCE GRINNELL AND MILLER: WHERE IS CALIFORNIA ORNITHOLOGY HEADED?

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December 1994 marked the fiftieth anniversary of a monumental event in California ornithology, publication of *The Distribution of the Birds of California* by Joseph Grinnell and Alden H. Miller, perhaps the most thorough state avifauna ever produced. Grinnell and Miller laid an impressive foundation. Published posthumously (it was completed by Miller), this work was the culmination of nearly fifty years of Grinnell's study of California wildlife, an achievement unmatched by anyone. The species accounts are filled with information about centers of abundance, seasonal movements, habitat uses, and outlying records. In terms of habitat descriptions, breeding ranges, and subspecies distributions, this work remains the key to our understanding of California's birds. Its enduring importance is exemplified by the enduring demand for it, enabling Artemisia Press to reprint it in 1986. More recent summaries, such as those by Garrett and Dunn (1981), McCaskie et al. (1988), and Small (1994), have contributed incrementally to our understanding of the status and distribution of California's birds, but none have reached, let alone exceeded, the level of detail that their forebears attained. For example, Grinnell and Miller's distribution maps, though forty years older, are still on average more detailed, accurate, and useful than those in Zeiner et al. (1990). As noted by Dunn (1994), "By and large, our knowledge of California breeding birds really hasn't advanced a lot in most areas beyond what was in Grinnell and Miller." Whereas this tribute to the authors is a huge one, Grinnell, as noted by Miller (1940), would have been the first to encourage that we move on, using their document as a springboard, and not relying upon it alone forever. Unfortunately, it is all too easy to be complacent about our current state of knowledge. Certainly we have learned a tremendous amount during the past fifty years, but even California, a relatively well-explored state, has many frontiers. Its avifauna, like that anywhere, is not constant.

From its inception through the 1950s, the *Condor* was the primary means of communication about these topics for California birds. As the *Condor* began to focus more on other issues in avian ecology and behavior, at the expense of distributional and taxonomic notes, a publication void had developed by the late 1960s. Fortunately, *California Birds* arrived in the nick of time, so that nary a beat was missed in the publishing of basic descriptions of bird distributions. In 1973, the fledgling California Field Ornithologists expanded into the Western Field Ornithologists; this organization has just celebrated its 25th anniversary, and its journal, *Western*

Birds, has grown to become *the* means of exchange of basic field ornithology ideas and information throughout western North America. Regional reports in *American Birds*, now *National Audubon Society Field Notes*, continue to be a valuable, though narrowly focused, source of primary distributional information.

THE QUEST FOR VAGRANTS

So what strides have we made in the past fifty years? Without question, our knowledge of the occurrence of vagrants has increased dramatically ("vagrants" being defined as "out-of-range," after DeSante and Ainley 1980:84). An oft-quoted remark by Grinnell (1922) is that "It is only a matter of time theoretically until the list of California birds will be identical with that for North America as a whole." By 1970, the quest for vagrants was a hot trend, and largely remains so today. This intrinsically exciting and entertaining pursuit has real scientific value: the status and patterns of occurrence of vagrants often provide insight into large-scale bird movements. But as a result of birding's preoccupation with glamorous vagrants, our knowledge of their status and distribution in California has leapfrogged over that of many regularly occurring breeders, migrants, and wintering species, with Grinnell and Miller still providing the core of our current knowledge for non-vagrants.

Grinnell and Miller treated 427 species. By the end of 1979, the California state list had grown to 535 species, an increase of 25% (Jehl 1980). The state list now stands at 586 (Heindel and Garrett 1995), a 10% increase since 1979 and a nearly 37% increase since Grinnell and Miller. With the exception of a few procellariids, particularly Murphy's (*Pterodroma ultima*) and Cook's (*P. cookii*) petrels, which have proven to be regular parts of our avifauna and probably always were, and roughly ten species that have truly invaded, such as the Cattle Egret (*Bubulcus ibis*) and Great-tailed Grackle (*Quiscalus mexicanus*), nearly every species added to the California list since Grinnell and Miller has been a vagrant (see Jehl 1980: Table 1). Species continue to be added annually, and a few invaders may establish themselves, but the ocean far offshore probably represents the only true frontier where we are likely to add species other than vagrants. Yet aside from this impressive increase in the list of species recorded in California, which included, admittedly, a ground-breaking understanding of vagrancy in western North America, our current position in understanding of status and distribution is only marginally ahead of where Grinnell and Miller left us.

THE CONSULTING INDUSTRY

Another major factor driving California ornithology has been environmental regulations, such as the federal Endangered Species Act and the California Environmental Quality Act. The requiring of environmental reports has drawn vastly increased numbers of biologists into the field and prompted the gathering of vast amounts of new data. In particular, the

federal Endangered Species Act, because of its role as one of the most effective tools for conservation of birds and their habitats, has resulted in endangered species attracting intensive study and, in some cases, substantial money. Knowledge of their distribution and biology has thus often increased disproportionately over that of more common species. Witness, for example, the extensive efforts focused on gathering basic data for the California Gnatcatcher (*Polioptila californica*), recently listed as threatened by the United States Fish and Wildlife Service. Over the past fifteen years, this species has gone from as obscure as any, even incorrectly classified as a subspecies, to one of California's best known birds. At this point we probably know more about the California Gnatcatcher than 90% of the other bird species in the state! The status review by Atwood (1990) provided the basis supporting the petition to list the this species as endangered. This review was able to include substantial information about current population levels, trends, habitat use, breeding biology, and taxonomy, making it probably the most thorough such documentation ever written. Nevertheless, the listing was recently successfully challenged in court (this ruling was stayed, pending review of additional information).

Unfortunately, most current information regarding the biology of the California Gnatcatcher, and a host of other sensitive species, exists only in unpublished documents, in-house reports, or other forms of "gray literature." This situation arises from the nature of the biological consulting industry, which has grown exponentially as environmental regulations have directed more businesses, developers, and government agencies into biological research. Yet almost none of the information generated by this industry is shared with other biologists. Indeed, much of it is considered proprietary to the business that commissioned the study! Although this problem is not confined to ornithology (*cf.* Wilbur 1990, Germano and Bury 1994), it has perhaps reached its pinnacle in this field, if only because of the sheer volume of consulting work being performed on birds in this state. Without question, more data about California birds is now being generated than at any time in the state's history. We acknowledge that many consultant reports are prepared only to assist regulatory agencies in judging compliance with environmental laws, but many contain new, well-documented information describing the basic biology of various California birds. The ultimate culprit is the short-sightedness of the environmental review process, which pays for the gathering of information, and for the writing of reports that gather dust in bureaucrats' files, but not for disseminating this information to the scientific community. Every effort should be made to share such data and, if appropriate, to publish them in peer-reviewed outlets such as *Western Birds*. Failure to share requires all of us to continually reinvent the wheel, escalating costs. Researchers in the burgeoning field of conservation biology desperately need good field data and solid descriptive ornithology, not the political strife so often associated with conservation efforts, such as the recent lawsuits associated with the California Gnatcatcher and Northern Spotted Owl (*Strix occidentalis caurina*) listings. As noted by Dhondt and Matthysen (1993), "urgent answers that conservation biology needs cannot often be provided by our present knowledge [and] although birds are better known than any other animal group, for

many species we have only vague ideas about their actual ranges and basic life-history traits."

LEVELS OF SCALE

Effective conservation planning at the local level requires a very fine-scale knowledge of bird distribution and abundance. Yet this kind of information is lacking except for a few endangered species and colonial seabirds (Sowls et al. 1980). For the great majority of California birds, the most detailed distributional data for the state as a whole are still the maps and text in Grinnell and Miller. Accurate as they are, their focus is at too coarse a scale for many of today's needs. The several county- or region-specific avifaunas published over the past twenty-five years (e.g., Harris 1991, Lehman 1994, Unitt 1984) for the most part update Grinnell and Miller adequately for those areas, but none achieves a significantly finer focus of scale. The first real breakthrough beyond this level has come only in the past two years with the publication of California's first two breeding bird atlases (Roberson and Tenney 1993, Shuford 1993). Several other similar projects are in varying stages of progress (Manolis 1991).

Each of these atlases has been initiated and pursued by private organizations and individuals, mainly amateurs, with no significant direction or support from government agencies. Yet, for the areas covered, these atlases will likely prove more useful to the wildlife agencies than anything the agencies have produced or sponsored themselves. If a tenth of the millions of dollars spent for consultants' studies had gone to support bird atlases as well executed as those for Marin and Monterey counties, we would have California's avifauna mapped completely, in even more exquisite detail, and a solid base for multiple-species conservation plans throughout the state. Instead, we endure the spectacle of millions being wasted on unpublished studies whose only visible result is political deadlock. The state of California has made a significant step toward useful management of information with the establishment of the Department of Fish and Game's Natural Diversity Data Base (Shaw 1987), but this data base is still very incomplete, even for the sensitive species it covers, and will remain so as long as its cost for use remains exorbitant. Other projects, such as the Urban and Environmental Outreach Program at the University of California, Riverside (intended to provide consultants and researchers with literature searches from published and unpublished sources), show promise of solving this information-management problem on a local level, but they have yet to become operational.

THEORETICAL VS. APPLIED ORNITHOLOGY

If descriptive ornithology and wildlife management have diverged, despite their natural interdependence, descriptive and theoretical, often university-based, ornithology have diverged even further (see *Auk* 97:409 and 98:636). With advances in the science and technology of avian ethology, ecology, energetics, physiology, genetics, etc., descriptive ornithology (the search for *patterns*) ceased to be at the "cutting edge," even though much

of it remains to be done. Universities began directing students into "cutting-edge," theoretical research (the search for *processes*) and away from descriptive ornithology. Ultimately descriptive ornithology, especially local faunistics, was left unsuitable as a thesis topic for graduate students in biology. All too frequently now, university-trained ornithologists have no ability or interest in identifying birds. It is as if physics students, after the development of relativity theory and quantum mechanics, no longer learned Newtonian mechanics. Thus orphaned, descriptive ornithology was inherited by birders, who have a natural interest in cultivating it.

Meanwhile, academic ornithology forged ahead, using mathematical and physical tools not readily accessible to amateurs. Ornithology thus followed the path of so many other sciences, in which ground-breaking advances can now be made only with the aid of sophisticated theories, expensive instrumentation, and money. Yet the need for more and better information on bird identification and distribution remains, along with those of us who feel motivated to explore these topics.

One point where the divergence between theoretical, process-oriented and descriptive, pattern-oriented ornithology is about to become a rift is over the definition of species. Genetic studies are beginning to suggest that some populations are reproductively isolated even though they are not completely differentiated in either external appearance or by voice. Johnson (1994) is quite right to point out that birds bear no responsibility for making themselves easy to identify. But field work in ecology, biogeography, and the like demands a species concept that is not only biologically sound but broadly useful as well. A proliferation of species cryptic to anyone outside a genetics lab would disrupt ornithology pursued anywhere else. We do not doubt that such cryptic "species" may be real, may merit study, and may have useful applications, but we prefer they be known by some other name. Otherwise, we see the biggest upheaval in systematics since Darwin, and the rift in ornithology becoming as great as that between quantum mechanics and home remodeling.

A related trend is the promotion of the "phylogenetic species concept" (Cracraft 1983, McKitrick and Zink 1988), in which every minimally diagnosable cluster of individuals considered an independently evolving unit is ranked as a species. This notion seems equally destructive to applied ornithology, its theoretical validity aside. We question the usefulness of a concept that assumes that speciation proceeds uniformly by the dichotomous branching of lineages, when evidence of their anastomosing in a network (secondary intergradation) is manifest.

THE VALUE OF SUBSPECIES

Perhaps in nothing is the divergence between process-oriented and pattern-oriented ornithology more marked than in the use of subspecies. New genetic techniques have revealed that the difference between two subspecies is reflected in but a tiny fraction of their genome, a fraction often different from the tiny fraction examined in genetic studies. These studies have often implied a population structure and evolutionary history different from what might have been inferred from subspecies defined by differences

in external appearance. Therefore many ornithologists have rejected the use of subspecies or at least neglected them as irrelevant. The viewpoints presented in a forum on the subspecies concept (Wiens 1982) illustrate this trend well (see also Monk 1992, Zink 1994, and Frank A. Pitelka's comments in the 1986 Artemisia Press reissue of Grinnell and Miller 1944). Part of the recent disdain for subspecific taxonomy may be traceable to misunderstanding just what a subspecies is. Many believe that described subspecies have utility only if they represent "evolutionary units" or incipient species. But as Mayr (1942:155) wrote in addressing the relationship between species and subspecies, "Geographic speciation is thinkable only if subspecies are incipient species. This, of course, does not mean that every subspecies will eventually develop into a good species. Far from it! All this statement implies is that every species that developed through geographic speciation had to pass through a subspecies stage."

Subspecies remain essential to the most detailed understanding of bird distribution and migration. They constitute the finest level on which most persons interested in birds will ever be able to describe them and their distributions. Marshall (in Phillips et al. 1964:x) put it well when he noted that "subspecies teach us more about migration than any other source of information . . . [and] constitute whole *populations* which are 'marked' by their peculiarities of color, size and proportions."

Even the American Ornithologists' Union, in its *Check-list of North American Birds*, the source followed as a standard for taxonomy in most publications on this continent, seems to have abandoned subspecies, despite its fine explanation for their maintenance (A.O.U. 1983:xiii). Not for thirty-eight years (A.O.U. 1957) has it dealt with subspecific taxonomy or distribution, and most of the current members of the check-list committee have published little or nothing on the subspecies of North American birds. Although it was not the intent of the A.O.U. to leave subspecies out of its check-list forever (Lanyon 1982), as this neglect continues, many field ornithologists and birders mistakenly conclude that subspecific information is of no value. Worse yet, the omission of subspecies from the sixth edition of the A.O.U. Check-list is frequently misinterpreted. For example, in their Field Sparrow (*Spizella pusilla*) account, Carey et al. (1994) stated that there are "No currently recognized subspecies (Am. Ornithol. Union 1983)"! Despite such misconceptions, *S. p. arenacea* remains strongly differentiated.

With few exceptions (e.g., Johnson and Marten 1992), as a result of this long neglect, understanding of California subspecies has advanced little since the time of Grinnell and Miller. The preoccupation of some of the old-time collectors with this subject may lead some to assume that little remains to be learned about it. Since 1957, however, some twenty new subspecies of birds occurring in California have been described (Browning 1990, Phillips 1991), though the validity and precise ranges of some of these need to be tested and refined. Doubtless some subspecies remain to be described, even in California; the avian biodiversity in our vast state has still not been fully documented.

Data about the distribution and status of many, if not most, subspecies remain poor. For example, the literature indicates that only one subspecies

of the Black-capped Chickadee (*Parus atricapillus*) occurs in California: *P. a. occidentalis*, as a resident in cismontane lowlands south to Humboldt County and inland to Siskiyou County, with only limited winter movements (A.O.U. 1957, Erickson pers. obs.). Yet E. Clarke Bloom (unpubl. data) has recorded Black-capped Chickadees in winter on the Modoc Plateau. Rather than *P. a. occidentalis*, which many might assume they are, these birds could be *P. a. fortuitus*, a subspecies with documented winter dispersal in other regions, or even the presumably sedentary but geographically closer *P. a. nevadensis*; neither of these subspecies is known from California, and both differ conspicuously from *occidentalis*.

Vagrants can originate from multiple source populations (McCaskie and Patten 1994). For example, the majority of the Yellow-throated Warblers (*Dendroica dominica*) recorded in California have been of the "white-lored," small-billed subspecies *albilora*, but there are at least four well-supported occurrences (e.g., Craig 1970) of large-billed, yellow-lored birds, presumably nominate *dominica*. Unfortunately, this species is one of the few for which such information is available, for the commendable effort made to document vagrants too often stops at the species level.

Whereas many vagrants have proven regular in California, these are of species lacking subspecies common in California. That eastern *subspecies* of transcontinental species are lacking from the California list is nearly as true as twenty years ago, when Phillips (1975) joked that "eastern birds appear to stray west only if they lack western relatives." He mentioned specifically the eastern Hermit (*Catharus guttatus*) and Swainson's (*C. ustulatus*) thrushes, Bell's (*Vireo bellii*), Solitary (*V. solitarius*), and Warbling vireos (*V. gilvus*), and Nashville (*Vermivora ruficapilla*), Yellow (*Dendroica petechia*), and Wilson's warblers (*Wilsonia pusilla*). Twenty years later, of these subspecies, only the nominate subspecies of the Solitary Vireo has been collected in California (once); for the others there are only a few inconclusive unpublished sight reports.

CONSERVE THE COLLECTIONS

Answering these sorts of questions requires judicious collecting of specimens. Collecting (and even mist-netting), however, has unfortunately fallen into disfavor in many birding circles, despite many excellent commentaries explaining the critical need for specimens and collections, including one by Grinnell himself eighty years ago (Grinnell 1915). Mercifully, in California bird collecting is not regulated as excessively and counterproductively as it is in some states, but urbanization and the need for special local authorizations make it impractical over ever larger areas. Still, collecting and collections need the wholehearted support of birders (Winker et al. 1991). If the practitioners and consumers of applied, descriptive ornithology do not support collections, they cannot expect the ecologists, physiologists, and geneticists to do it for them. The recession of the 1990s has led to the financial hobbling of several of California's important bird collections. If these are to remain open for public use, birders and field biologists must make responsibility for their maintenance and prosperity a priority for their parent institutions.

Collections and descriptive taxonomy are crucial not only to basic ornithology but to many conservation efforts as well. As noted by Zink (1994), "Museums, and associated personnel trained in identification of specimens, taxonomy, and phylogenetic relationships, must form the framework of our attempt to preserve the earth's biota." So whether or not subspecies are in fashion, we must keep in mind that birds distribute themselves by populations, not by species; they are also most effectively conserved, or lost forever, at the population level. The California Gnatcatcher is just one example of taxonomy's bearing on conservation. Many other rare or endangered taxa need taxonomic reevaluation. For example, the Eagle Mountain Scrub Jay (*Aphelocoma coerulescens cana*) and Inyo Brown Towhee (*Pipilo crissalis eremophilus*) may not be valid subspecies (Phillips 1986, Peterson 1990, Unitt pers. obs.). Conversely, the recently described and intensively analyzed San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*), though rarer than California Gnatcatcher (Rea and Weaver 1990), will receive no protection from the U. S. Fish and Wildlife Service (1994). This agency denied the subspecies' existence by pretending the published study did not exist and relying on one of its own employees for scientific cover.

Subspecies distributions are no less static that those of species. For example, the San Diego Song Sparrow (*Melospiza melodia cooperi*) has invaded the range of the desert subspecies *M. m. saltonis*, and secondary intergradation of two of the most divergent subspecies in North America has begun (Unitt pers. obs.). Do the Loggerhead Shrikes of San Clemente Island, still represent *Lanius ludovicianus mearnsi*, a subspecies listed as endangered? Our observations suggest that, externally, they may not. What does this mean for the conservation of the population?

Even without collecting one can contribute to our understanding of subspecies distribution. The Atlantic Brant (*Branta bernicla hrota*), Myrtle Warbler (*Dendroica coronata*), and Harlan's Hawk (*Buteo jamaicensis harlani*), are as readily field-identifiable as they were when they were ranked as species, though reports of them are spotty or have virtually ceased (Patten and Campbell 1992).

CONCLUSION

Grinnell and Miller provided us with a sturdy foundation for the study of bird species and subspecies in California. Now more than ever, given the massive and rapid changes in this state's environment, we need to update and refine our knowledge in all fields to build upon that foundation. Unanswered questions remain at all levels. Why has the Brown Pelican (*Pelecanus occidentalis*) increased so dramatically as a post-breeding visitor to the Salton Sea? Why do we almost never detect migrant Black-chinned Sparrows (*Spizella atrogularis*)? Is the Least Bittern (*Ixobrychus exilis*) declining in California? Basic knowledge of breeding biology, dispersal capabilities, and habitat requirements is still needed for most species, let alone populations. Most counties still need an updated summary, much less a breeding bird atlas. An atlas of *winter* distribution, as has been done for Britain and France, for example, is still beyond the horizon. As clear as

the importance of descriptive ornithology may seem to those of us in the field, it will be an uphill battle to educate and reeducate society about its relevance and applications. Finding resources to support its practice and communication will be an even greater challenge. Fortunately, *Western Birds* remains committed to the importance, practice, and publication of descriptive ornithology in the tradition of Grinnell and Miller.

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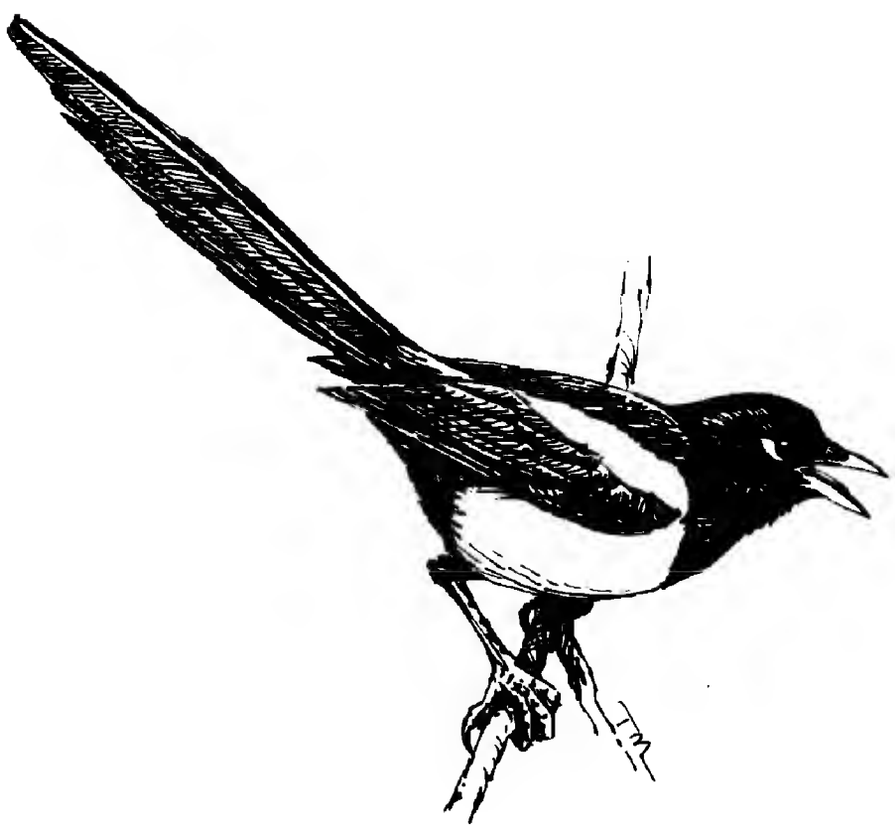

Yellow-billed Magpie *Sketch by Tim Manolis*

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Cover photo by © Herbert Clarke of Glendale, California: Mountain Quail *(Oreortyx pictus)*, Yosemite National Park, California, August, 1989.

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BIRD OBSERVATIONS ON WAKE ATOLL

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Wake Atoll, at 19° 18' N, 166° 38' E, is one of the earth's most isolated land masses. It is 1700 mi. (2700 km) from Japan and 2000 mi. (3100 km) from Honolulu. The nearest point of land is tiny Taongi Atoll in the northern Marshall Islands, 350 mi (550 km) to the southeast. As this island is seldom visited by ornithologists, its avifauna is little known. Wake Atoll, usually referred to as Wake Island, consists of three islets, only one of which is correctly called Wake Island. The atoll is V-shaped with its apex projecting southeast. Its total land mass is only 3 mi^2. Each arm of the "V" is approximately 4.5 mi. (7.0 km) long and averages about 0.3 mi. (0.5 km) across, with a shallow lagoon between the arms. Both arms are broken near their distal end. Wilkes Island, at the tip of the south arm, was once separated from the main island by about 300 feet (100 m) but is now connected by a causeway. At the tip of the north arm is slightly larger Peale Island, separated by a 400-foot (125-m) channel traversed by a narrow bridge. Seabird colonies are almost restricted to these two islands. Most human activity and virtually all permanent buildings are confined to the main island.

The birds of Wake Atoll are known from only a few accounts: Vaughn (1945), Bailey (1951), Bryan (1959), Rice and Kenyon (1962), Casey (1966), Fosberg (1966), Johnston and McFarlane (1967), Rowland (1990), and Sutterfield (1990), plus unpublished reports and field notes of the Pacific Ocean Biological Survey Program in the National Museum of Natural History, Washington, D.C. Pratt et al. (1987) summarized the known avifauna through about 1985. I visited the island from 24 March until 1 April 1993 as the ornithologist for a biological survey conducted for an "environmental assessment for long-term activities at Wake Atoll" (U. S. Army Space and Strategic Defense Command). I found most of the species reported by previous investigators. The Red-tailed Tropicbird (*Phaethon rubricauda*), Brown Booby (*Sula leucogaster*), Red-footed Booby (*Sula sula*), Sooty Tern (*Sterna fuscata*), and Brown Noddy (*Anous stolidus*) were breeding at the time of my visit. Three other species present but

apparently not breeding at the time of my visit were the White-tailed Tropicbird (*Phaethon lepturus*), Masked Booby (*Sula dactylatra*), and Great Frigatebird (*Fregata minor*).

SPECIES ACCOUNTS

The following species accounts include, in addition to my observations, accounts of the birds observed and photographed by Lou Hitchcock, a civilian Air Force employee and 20-year resident of the island. Hitchcock is not an ornithologist and has had no access to field guides or experts, but he has documented much of what he has observed of the plants and wildlife over the years with an excellent series of photographs that I examined. Historically, no land-dependent birds other than shorebirds, ducks, and the now-extinct Wake Rail (*Rallus wakensis*) were documented from this remote atoll.

Laysan Albatross *Diomedea immutabilis*. This species breeds in the northwestern Hawaiian Islands and the Ogasawara (Bonin) Islands south of Japan, and may be establishing small colonies on Guadalupe Island and San Benedicto Island off the west coast of Mexico (Harrison 1990). It ranges at sea throughout the northern Pacific Ocean (Sanger 1974). It was formerly more common and widespread and may have bred on Wake Atoll. In Hawaii it nests during the winter (Harrison 1990), but in what season it has nested or attempted to nest on Wake Atoll is not clear.

Hitchcock frequently has seen up to four or five birds at a time on the island. He reports that they stay for a few weeks at a time but never nest successfully. They keep to the closely cropped grassy areas adjacent to the runway, where they lay their eggs. Hitchcock has never seen young and believes the feral cats, and possibly rats, may destroy the hatchlings. He has excellent photographs of paired birds in courtship (Figure 1). I did not see this species during my visit.

Titian Peale, artist and naturalist on the United States Exploring Expedition in 1841, found "short-tailed albatrosses" here, which may have been this species, as well as the Black-footed (Rice and Kenyon 1962). Peale referred to them as *D. brachyura*, believing the different plumages were different age classes of the Short-tailed Albatross. The one specimen from this expedition in the U. S. National Museum is *nigripes*, but an egg collected appears to be that of *immutabilis* (Rice and Kenyon 1962).

Rice and Kenyon (1962) also reported Alexander Wetmore's recollections from his 1923 *Tanager* Expedition to Wake Atoll. Wetmore told them of great destruction of birds by the Japanese in the years prior to his visit from 27 July to 7 August 1923. He found evidence of a recently operated skinning plant, indicative of extensive plume hunting on the island, that contained piles of bones from frigatebirds, boobies, and terns, but no albatrosses. He surmised that the lack of albatross bones suggested that they no longer bred on the island by 1923 and perhaps long before. Rice and Kenyon also stated, "Information supplied by several observers who were on Wake from 1935 until the Japanese occupation in 1942 confirmed the absence of albatrosses on the island during this period."

Rowland (1990), however, mentioned a 1936 photograph of the old Pan American hotel in the Wake Island Museum that shows an adult Laysan Albatross and several downy chicks on the lawn. He also mentioned a possible Laysan Albatross nest in 1988 reported to him by island residents in 1989. Furthermore, Bailey (1951) also suggested that some species of albatross bred on the island during the period of Japanese occupation in World War II. An American blockade of the island had all but cut off the Japanese from their supply lines, resulting in the starvation of

many of the troops during the last few months of their occupation. He quotes from the diary of a Japanese officer stationed on the island at that time: "An order has just come out forbidding us to catch gooney birds [albatrosses] lest they be wiped out."

It appears from these accounts that Laysan Albatrosses have bred or attempted to breed periodically on Wake Atoll since the earliest visits by ornithologists in the last century. Unfortunately, little concrete evidence exists to support these observations.

Black-footed Albatross *Diomedea nigripes*. I saw two flying together about 2 km off Peacock Point on 25 March and observed one flying low over the airstrip on 31 March. Gary Lumia, an Air Force maintenance technician, described to me six large all-dark "gooney birds" he had seen regularly at Peacock Point for a period of time until about "four weeks ago." He thought they might be nesting because of their courtship activities but never saw eggs or young. Black-footed Albatrosses have bred on Taongi Atoll (Pratt et al. 1987), the land nearest Wake, but have not been definitely observed breeding at Wake Atoll since Peale's visit in 1841.

White-tailed Tropicbird *Phaethon lepturus*. I briefly saw one adult in flight near the rain catchment basins between the personnel housing area and the air terminal on 25 March. Hitchcock sees them every year and believes that a few breed. Fosberg (1966) reported one near Flipper Point in September 1961 and two on Wilkes Island on 8 March 1963. Casey (1966) reported two adults with one chick in the rubble of an old Japanese blockhouse on the island during her visit in 1966 (specific date not given). This species breeds primarily on high islands, in trees in the interior or in shaded rock crevices along coastal headlands, but also nests in small numbers on low-lying atolls such as at Midway Island (Harrison 1990).

Figure 1. Laysan Albatross courting, Wake Atoll.

Photo by Lou Hitchcock

Red-tailed Tropicbird *Phaethon rubricauda.* Unlike the White-tailed Tropicbird, this species breeds primarily on atolls and other low-lying islands (Figure 2). Its numbers increased noticeably during the eight days I was on the atoll, suggesting that it was in the earliest stages of its breeding cycle. In all, I found ten birds on nests and observed courtship activity in several other areas, suggesting additional unseen or not-yet-established nest sites. Nesting and courting birds were in six more or less distinct areas on Peale Island and Wake Island proper northwest of the air terminal, but not on the southern arm of the atoll. Of three attended nests examined, one contained an egg and two were empty. According to Gould et al. (1974), this species breeds mainly from March through July or August on Wake Island.

Masked Booby *Sula dactylatra.* I saw three adults in the Brown Booby colony and these or other individuals on nearby offshore rocks at the west end of Wilkes Island. No nests, eggs, or young were observed. These birds may have been in the early stages of breeding (before egg laying). Apparently, this species breeds on Wake only in small numbers. Other accounts have reported fewer than six pairs. Fosberg (1966) saw only a very few on Peale Island on 22 and 23 October 1953. Casey (1966) stated that it is "rarely seen." Rowland (1990) saw only two active nests, both with chicks, on Wilkes Island in 1989. Sutterfield (1990) saw two Masked Boobies on eggs in late October 1989.

Brown Booby *Sula leucogaster.* I located two adjacent colonies of approximately 30 and 26 nests on the outer perimeter of the Wilkes Island Sooty Tern colony. Young were in all stages of growth from recently hatched to nearly full-sized downy with moderately developed flight feathers. No nest contained more than two young, and all nests with well-developed young had only one. I saw no eggs, but several

Figure 2. Nestling Red-tailed Tropicbird, Wake Atoll.

Photo by Lou Hitchcock

sitting birds may have been incubating. Fosberg (1966) found it to be the most common of the boobies. He found 20 pairs, all with young, on the lagoon side of Kuku Point, Wilkes Island. Rowland (1990) counted 106 nests, most with young, on Wilkes Island in April 1989. Sutterfield (1990) found 148 Brown Boobies beginning nest construction and two on eggs in late October 1989.

Red-footed Booby *Sula sula*. I found two small adjacent colonies in Beach Heliotrope *(Tournefortia argentea)* and Naupaka (*Scaevola sericea*) trees near the west end of Wilkes Island. These two colonies were approximately 100 m apart at the interface between heliotrope scrub forest and the large grassy field (the Vortac area) at the island's west end. The nests were between 1.5 and 4 m off the ground. Approximately one third of the nests held nestlings; the other nests may have contained eggs or recently hatched young. No young were more than two-thirds grown. Approximately 26 nests were visible from the field and about nine others were seen as far as about 15 m into the scrub forest. Bailey (1951) saw no boobies of any species nesting on the island when he visited in May 1949, and attributed this to the near devastation of the island during the war, which had ended four years earlier. Fosberg (1966) found a few nesting on Peale Island on 21 April 1952. Rowland (1990) counted 41 Red-footed Booby nests on Wilkes Island in April 1989. The eight nests in which he was able to determine the contents all had young.

Most Red-footed Boobies on Wake Atoll are light-morph birds; however, at least two I saw were white-tailed brown morphs. One of these was paired with a white-morph individual and the other one may have been as well. A few other birds mottled with dusky on their back, wings, and (in some cases) tail I presumed to be immatures of the light morph. I saw no Red-footed Boobies away from the immediate vicinity of the colony other than one flying toward the colony from the ocean south of Wilkes Island on 31 March, suggesting that this species forages farther at sea.

Great Frigatebird *Fregata minor*. I saw up to 225 birds roosting on powerlines across the man-made channel that nearly bisects Wilkes Island about midway along its length. Often, a few were seen there well into the morning and well before dusk as well. About 70% of the frigatebirds I observed at the atoll were immatures. Frigatebirds showed no indication of breeding during my visit. Only one of the sources that I have read (Fosberg 1966) specifically mentions frigatebirds' nesting on the island, although most found a number of birds present (Sutterfield, for example, counted 274 on the powerlines). Fosberg (1966) found birds carrying twigs and "perhaps 10–12 pairs with eggs" in trees on Wilkes Island just back of Kuku Point in March 1963. He also found a number of individuals roosting in trees and on the remains of an old pier, on both Peale and Wilkes islands, in April and July 1952, October 1953, and September 1961.

Cattle Egret *Bubulcus ibis*. Hitchcock showed me photographs he had taken of a Cattle Egret, one of three that were present. The bird in the photographs was rather stocky and short-necked, with a relatively short yellow bill and black legs and feet, characters all typical of this species. It was photographed in the interior of the island in short grass. Although he did not record the date, his prints were processed on 16 October 1979. These birds could have been migrants or strays from eastern Asia or wanderers from the introduced Hawaiian population.

Northern Pintail *Anas acuta*. Hitchcock has photographs of five females on a small freshwater pond near the air terminal. The photos were processed on 16 October 1979. According to him, ducks show up twice a year, apparently on a regular basis, but never more than seven birds at a time. Fosberg (1966) found one on a small pond on 8 March 1963 and mentioned that a resident had seen up to nine ducks at a time. This species was also mentioned by Casey (1966) as one of three duck species that occur rarely.

Black Kite *Milvus migrans*. I examined several photographs in Hitchcock's collection of an individual that appeared around 1980 and stayed for about five years (Figures 3). The Black Kite is abundant in much of mainland Eurasia from the tropics nearly to the Arctic Circle, in Japan, and in much of Australasia, including Sulawesi, Papua New Guinea, and portions of the Solomon Islands. Populations in northern latitudes (*M. m. lineatus* in Asia) are long-distance migrants, but extralimital island records are rare. Amadon (1952) and Dickinson et al. (1991) reported a 1907 specimen of *M. m. lineatus* from Palawan. MacKinnon and Phillipps (1993) described this species as a "rare winter visitor" to Sumatra and Borneo. Interestingly, the specimen from Borneo is also *M. m. lineatus* (Smythies 1981) rather than the largely resident *M. m. affinis* from nearby Sulawesi. To the best of my knowledge, this species has been reported only three times before in the oceanic North Pacific. T. Lemke and T. Pratt observed an immature on Pagan Island in the northern Mariana Islands on 19 February 1984 (Glass et al. 1990), and one was seen on Tinian Island, also in the northern Marianas, from 25 July 1989 until 19 November 1990 (Stinson et al. 1991). Glass et al. also mentioned, without further details, an unpublished sighting from Midway Atoll "more than a decade ago." Because of the paucity of extralimital records in the Pacific, the possibility that the Wake Atoll bird was ship-assisted must be considered. Black Kites are common in large ports such as Hong Kong, Shanghai, and Tokyo, where they may frequently be seen perched on ships' riggings.

Figure 3. Black Kite in flight, Wake Atoll, early 1980s.

Photo by Lou Hitchcock

Pacific Golden-Plover *Pluvialis fulva*. This species is a common and widespread winter visitor on Wilkes and Wake islands, but is relatively scarce on Peale Island, which lacks open grassy habitats. I saw it primarily in short-cropped grassy areas, especially along the runway, taxiway, and golf course, but also on both outer and inner beaches. Johnston and McFarlane (1967) conducted a comprehensive study of the bioenergetics and seasonal status of the Pacific Golden-Plover on Wake Atoll. On the basis of seven visits between June 1963 and May 1965, they estimated that 200–500 winter on the atoll, with the first birds arriving in late July and the last departing in late May.

Wandering Tattler *Tringa incana*. I saw several individuals daily in a variety of aquatic habitats, including outer rocky and pebbly beaches, calm channel shorelines, freshwater and brackish ponds, and sand flats in the inner lagoon. This species is a frequently recorded migrant (Fosberg 1966, Casey 1966, Johnston and McFarlane 1967).

Siberian (Gray-tailed) Tattler *Tringa brevipes*. I saw and heard one individual in basic plumage at the freshwater pond between the tarmac and taxiway at the air terminal on 29 March. It gave a distinctive "tuwee tuwee" call, very unlike the "tlee-tlee-tlee-tlee" call of the Wandering Tattlers with which it was associating. This represents the first record of this species from Wake Atoll; however, it should be expected occasionally, as it is common in Micronesia and rare in the Hawaiian Islands (Pratt et al. 1987).

Bristle-thighed Curlew *Numenius tahitiensis*. I examined photos of a probable Bristle-thighed Curlew taken by Hitchcock sometime in 1983 (photo processed in December 1983). Although the photographs are rather poor, the bird's generally warm brown plumage suggests this species rather than the Whimbrel *(Numenius phaeopus)*. Fosberg (1966) found a Bristle-thighed Curlew on 1 September 1961 and several from 7 to 9 March 1963. With no comment, Casey (1966) also listed this species for Wake.

Ruddy Turnstone *Arenaria interpres*. I observed one feeding in the closely cropped grass at the west end of the runway on 25 March. However, during brief stops at Kwajalein Island (750 mi. south of Wake) while traveling to and from Wake, I found this species abundant. Fosberg (1966), Johnston and McFarlane (1967), and Wetmore (Rice and Kenyon 1962) found small numbers in July, August, October, and March, suggesting that it is an expected migrant on Wake.

Gray-backed Tern *Sterna lunata*. This species is confined to the tropical Pacific from Hawaii south to the Tuamotu Archipelago, Tonga, and Fiji, and west to the Marianas (Harrison 1985). I saw eight, four, and seven individuals, respectively, on 26 and 27 March and 1 April, perched on and flying around a cluster of wooden posts just offshore on the lagoon side of the causeway between Wake and Wilkes islands. I saw no indication of breeding. Harrison (1990) listed Wake as one of the islands where the Gray-backed Tern breeds but gave no specific information. Casey (1966) listed it as present but did not elaborate.

Sooty Tern *Sterna fuscata*. This is far and away the most abundant bird on Wake Atoll (Figure 4). There was a large breeding colony at the west end of Wilkes Island and a smaller colony on Peale Island at the time of my visit. I also found evidence of two recently active colonies elsewhere on Peale; however, no birds breed on Wake Island proper. The Wilkes colony occupied 18,000 m^2 at the west end of an expansive grassy area just above the shoreline. The number of adults in this colony at the time of my visit varied between approximately 10,000 and 25,000, the higher figures being counted at dawn and dusk. The number of young I estimated at approximately 3000–3500, by extrapolation from counts of various sections of the

colony. There were an estimated 9800 eggs in the colony, but none examined were viable and most were cracked or broken. Young birds varied from only a few days old to nearly full grown. No flying young were seen in this colony the first two days, but one was seen on 26 and 27 March flying over the shoreline just west of the colony. I observed no predation on Sooty Tern eggs or young; however, a feral cat ventured into the colony on 27 March. The cat did not attempt to capture any young but rather seemed intent on exiting the colony as quickly as possible.

On Peale Island the only breeding Sooty Terns were on and immediately adjacent to Flipper Point. Young birds were in groups along the shoreline, and a few were in the vegetation just above the shoreline. An estimated 300 young were in this colony; however, a direct count was not possible because of dense vegetation. In contrast with the Wilkes colony, many young in this colony had fledged and were flying about the colony on 24 March and afterward. The average unfledged bird was also about 1½ to 2 weeks more advanced here than on Wilkes. Island residents mentioned that there were considerably more birds (adults) on Peale a few weeks prior to my visit (one used the term "millions"). I found evidence of recent nesting near Flipper Point and at the west end of Peale, where I observed dead chicks and non-viable eggs. There were approximately 500 eggs and an undetermined number of dead chicks of all ages, as well as about ten dead adults. The age of the carcasses prevented any determination of cause of death. At the extreme west end of Peale I found fewer than 20 carcasses of hatchlings in a small clearing at the end of the road. I found no evidence of nesting anywhere else on Peale. Much of Peale Island is heavily vegetated with shrubs of *Tournefortia argentea*, *Scaevola sericea*, and *Pemphis acidula* so is not suitable for Sooty Terns.

Bailey (1951) described the Sooty Tern colony on Peale Island as "the largest I had ever seen," suggesting that it was much larger than the one I observed, although he

Figure 4. Incubating Sooty Tern, Wake Atoll.

Photo by Lou Hitchcock

did not estimate its size, saying only that he saw "thousands of birds on their eggs" on 15 May. The Pacific Ocean Biological Survey Program (unpubl. field notes; Gould 1974) reported 1,750,000 Sooty Terns on Wake Island from 1964 to 1966. Fosberg (1966) found a "considerable rookery" on Peale on 20 and 21 April 1952 with "young in various stages of pin feathering to almost full grown." In October 1953 he found a "small flock near the western tip of Peale Island, including "almost fully grown young." On 8 and 9 March 1963, he found thousands of birds present, "with fully grown young, able to fly when approached." Casey (1966) reported "250,000 to 1,000,000 birds" in 1966.

Rowland (1990) visited the island in early April 1989 and found approximately 250,000 nestling Sooty Terns in a 48,000-m^2 colony at the west end of Wilkes Island. This stands in stark contrast to the 3000 to 3500 chicks I found in a colony only three-eighths this size at virtually the same time of year when the birds were in about the same stage of their breeding cycle. Rowland also found considerably more birds on Peale Island. He estimated about 100,000 chicks on Flipper Point alone and 43,000 more in the general vicinity. Sutterfield (1990) found no evidence of nesting on Wilkes Island in late October 1989, but did find "a few eggs" on the northwest point of Peale Island. He did not indicate if they were being incubated.

Hitchcock told me that Sooty Terns were formerly much more common and the feral cats have substantially reduced their numbers. He said that others had told him that a single cat working at night can kill up to 100 chicks and so disrupt the colony that many additional young become isolated from their parents in the dense vegetation and die. He said the tern colony once took up the entire graded area (the west end of Wilkes is graded every year to attract the terns away from areas around the runway where they would nest otherwise) but now takes up only about one-sixth of that area.

Most Sooty Terns at Wake nest in the spring, as on Hawaii; however, the timing of breeding on Wake and elsewhere in the central and eastern Pacific is poorly understood, with different colonies on the same island sometimes nesting at different times of the year (Ashmole 1963, Gould 1974). At least in 1989 and 1993, incubation had ended by late March and early April, suggesting a somewhat earlier breeding season in these years, although Bailey (1951) found Sooty Terns still on eggs in May.

Brown Noddy *Anous stolidus*. I found eight birds and two freshly constructed nests on top of a concrete bunker at the outer perimeter of the Sooty Tern colony on Wilkes on 26 March. The same day I saw four birds perched, one with vegetation in its beak, atop a rather large offshore coral "rock" covered with whitewash off the west end of Wilkes. On 28 March, one nest with an egg was located atop a large concrete block in the lagoon near the golf course on Wake Island proper. Also on this date, a flock of 65 noddies circled for much of the day around a cluster of *Casuarina* trees on the golf course and perched on offshore coral near the golf course. By 29 March the flock had grown to 90. Scattered other individuals were seen throughout the atoll flying along the shore or feeding offshore, with total numbers on the atoll increasing noticeably during my visit.

Fosberg (1966) found one nest (contents not given) and several birds on 20 and 21 April 1952, and a nest with a half-grown young on 22 and 23 October 1953. Casey (1966) mentioned Brown Noddies as abundant, "although [their nests] are sometimes hard to locate."

Black Noddy *Anous minutus*. I saw two individuals perched with Brown Noddies on a concrete structure just offshore along the outer beach opposite the golf course on 29 March. This species is rare at Wake, and its breeding has not been suspected by past observers.

White Tern *Gygis alba*. I saw three birds in flight near the west end of the runway on 24 March. I then saw none until 28 March, when I observed six circling around and perched in the cluster of *Casuarina* trees at the golf course on the main island. I saw these birds there every day subsequently until my departure on 1 April but saw no courtship behavior. Fosberg (1966) found several birds in April 1952, October 1953, September 1961, and March 1963, but no indication of breeding.

Rock Dove (Feral Pigeon) *Columba livia*. I observed a flock of eleven birds on 28 March and six birds on 29 March in the vicinity of the golf course. They are apparently being bred by an island resident (Rowland 1990).

Short-eared Owl *Asio flammeus*. I flushed one from beneath a small *Pemphis* bush at the southwest corner of the catchment basins late in the morning of 28 March, and a few minutes later observed the bird flying low over the open scrubby area between the catchment basins and the golf course. Although this species is unrecorded in the literature from Wake Atoll, Hitchcock has seen owls (presumably Short-eared) at Wake on several occasions. He usually sees them in vehicle headlights when flushed from the roadside at night.

Other species reported in the literature fiom Wake Atoll but not recorded by Hitchcock or me are the Christmas Shearwater, *Puffinus nativitatis* (Pratt *et al.* 1987:344), Garganey, *Anas querquedula* (Casey 1966, Johnston and McFarlane 1967), Northern Shoveler, *A. clypeata* (Casey 1966, Johnston and McFarlane 1967), "yellowlegs" (Casey 1966), Sanderling, *Calidris alba* (Casey 1966, Johnston and McFarlane 1967), Sharp-tailed Sandpiper, *C. acuminata* (Casey 1966, Johnston and McFarlane 1967), Dunlin, *C. alpina* (Casey 1966, Johnston and McFarlane 1967), and Common Snipe, *Gallinago gallinago* (Johnston and McFarlane 1967).

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SEX RATIOS AND BILL GROWTH IN NESTLING BLACK-CHINNED HUMMINGBIRDS

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Implicit in the analysis of sex ratios in wild bird populations is the assumption that equal numbers of males and females are conceived, hatched, and fledged. Sex ratios biased in favor of females have been reported for the Broad-tailed Hummingbird (*Selasphorus platycercus*) by Calder et al. (1983) and Calder (1990) and the Ruby-throated Hummingbird (*Archilochus colubris*) by Mulvihill et al. (1992) and Bill Hilton (in litt.). Our data for the Black-chinned Hummingbird (*Archilochus alexandri*) are, to our knowledge, the first attempt at providing empirical support for sex ratios in hummingbirds being equal at conception, hatching, and fledging. Validating this assumption is an important first step in examining the phenomenon of biased sex ratios in adults. In addition, our data show that bill length can be useful in determining the age of nestlings.

METHODS

Most Black-chinned Hummingbird nestlings we studied were received by Elliston through Wildlife Rescue Inc. of New Mexico after their mothers had abandoned them. Others were examined after the limb to which their nest was attached had been sawed down. In these cases, after the adult female was located, the nests were wired back into the tree and the female continued to care for her young. Elliston successfully reared most orphaned birds, though occasionally birds were dead upon arrival or did not survive. These were autopsied, sexed, and preserved as voucher specimens. Less than 10% of our data are from birds that Baltosser obtained in the field during other hummingbird investigations, some dating back to 1976 (e.g., Baltosser 1986, 1989).

Hummingbirds invariably lay two eggs (Skutch 1973, Johnsgard 1983). Since sibling pairs constitute a brood, data on them are separated from other data (i.e., birds of uncertain relationship received by Wildlife Rescue) to make this subset clearly visible. For the purpose of assessing sex ratios, however, all available information has been used. The 15 birds of unknown sex (8.5% of the total) were ultimately allocated equally between males and females, but only after we determined that apportioning them otherwise did not alter the statistical significance (P 0.05).

Birds in the non-paired data set have been assigned to one of three age categories on the basis of bill length and growth curves: pre-fledgling nestlings (bill 13.0 mm), fledglings (bill > 13.0 mm 17.0 mm), and post-fledgling juveniles (bill > 17.0 mm). This system supplements Ortiz-Crespo (1972) and Baltosser (1987) by extending the use of the bill in aging to birds in even earlier stages of development.

Bill-growth rates were determined from orphaned and displaced Black-chinned Hummingbirds brought to Wildlife Rescue of New Mexico over eight years. Elliston took daily bill measurements from the bird's receipt to its release. As the day of hatching of most birds was unknown, an age of 21 days was assigned to each on the day of first flight (Bene 1945, Bent 1940, Cogswell 1949, Skutch 1973, Tyrrell 1985). The age at each previous measurement was then established after the date of fledging became evident. At the beginning of the study, we used vernier calipers accurate to the nearest 0.1 mm. Since 1991 we have adopted digital calipers accurate to 0.02 mm.

Characteristics of wing and tail feathers were the primary means of sex determination (Baldridge 1983, Baltosser 1987). Birds having a notch at the tip of the sixth primary, a pointed and angular fifth rectrix, and a reduced amount of white at the tip of the third rectrix were classified as male. Nestlings lacking these feather specializations and having large amounts of white at the tip of the third rectrix were classified as female.

The data set representing complete two-chick broods may be minimal from a statistical standpoint (N = 36 nests, 72 individuals—including 2 individuals of unknown sex). When combined with the non-paired data (105 individuals—including 13 individuals of unknown sex), however, the data are sufficiently robust to sustain the validity of our conclusion. Data sets were statistically analyzed with G tests of independence in conjunction with Williams' correction (Sokal and Rohlf 1981). The former statistically compares our observed ratio of males to females to the theoretically expected ratio of one male to every female.

RESULTS AND DISCUSSION

Bill Growth

Figure 1 shows the growth of the bill in young birds from a length of less than 4 mm at hatching to over 13 mm at the end of 21 days, the usual age at fledging (average increment = 0.51 mm/day). The variability between day 1 and day 17 may have been influenced by several conditions. Few very young birds came to Wildlife Rescue, and those that did were growing on an artificial diet, perhaps not as conducive to optimal growth as a natural diet. Since growth of very young birds is rapid, even slight variability in the intervals of measurement can result in proportionately large changes in bill length. Additionally, because of poor feather condition, birds orphaned very young and raised on an artificial diet sometimes were unable to fledge, making estimates of their age, back-dated from time of first flight, unreliable. The bill lengths of birds acquired from the wild at over two weeks of age varied less.

The bills of fledglings continue to grow at a rate just slightly less (0.44 mm/day) than the nestlings' rate for about 2 weeks after fledging (Figure 1). The growth rate of juveniles diminishes (0.04 mm/day) over the next 14 days (weeks 6 and 7) as bills attain their full length. Male and female Black-chinned Hummingbirds are sexually dimorphic (Stiles 1971, Baltosser

1987), and this dimorphism becomes evident in bill length at about the time of fledging (Figure 2).

We devised predictive equations based on bill length to estimate a young Black-chinned Hummingbird's age. The 21-day data set yielded the following, where x represents bill length and y represents age: $y = 1.96x - 3.94$. That is, every 1 mm increase in bill length takes 1.96 days, a daily increase of ca. 0.51 mm/day. The 35-day data set yielded $y = 2.02x - 4.43$. The r-square values for these equations are 0.98 and 0.99, respectively. In other words, 98 to 99% of the variation in age can be explained (predicted) on the basis of the variation in bill length.

Sex Ratios

Even though most nestlings brought to Wildlife Rescue were reared under artificial conditions, this should not bias our conclusions concerning sex ratios at conception or hatching. We also believe that sex ratios of fledglings are similar to those of birds reared in the wild. Our logic stems from research conducted by Baltosser (1986), which revealed that between 32 and 47% of all Black-chinned nests that fail because of predation are lost early, to predation on eggs rather than on chicks. An additional 2 to 6% of nests containing eggs are lost to other causes. Mortality ascribed to predation of nestlings ranges from 10 to 19%, with an additional 2 to 10% lost to

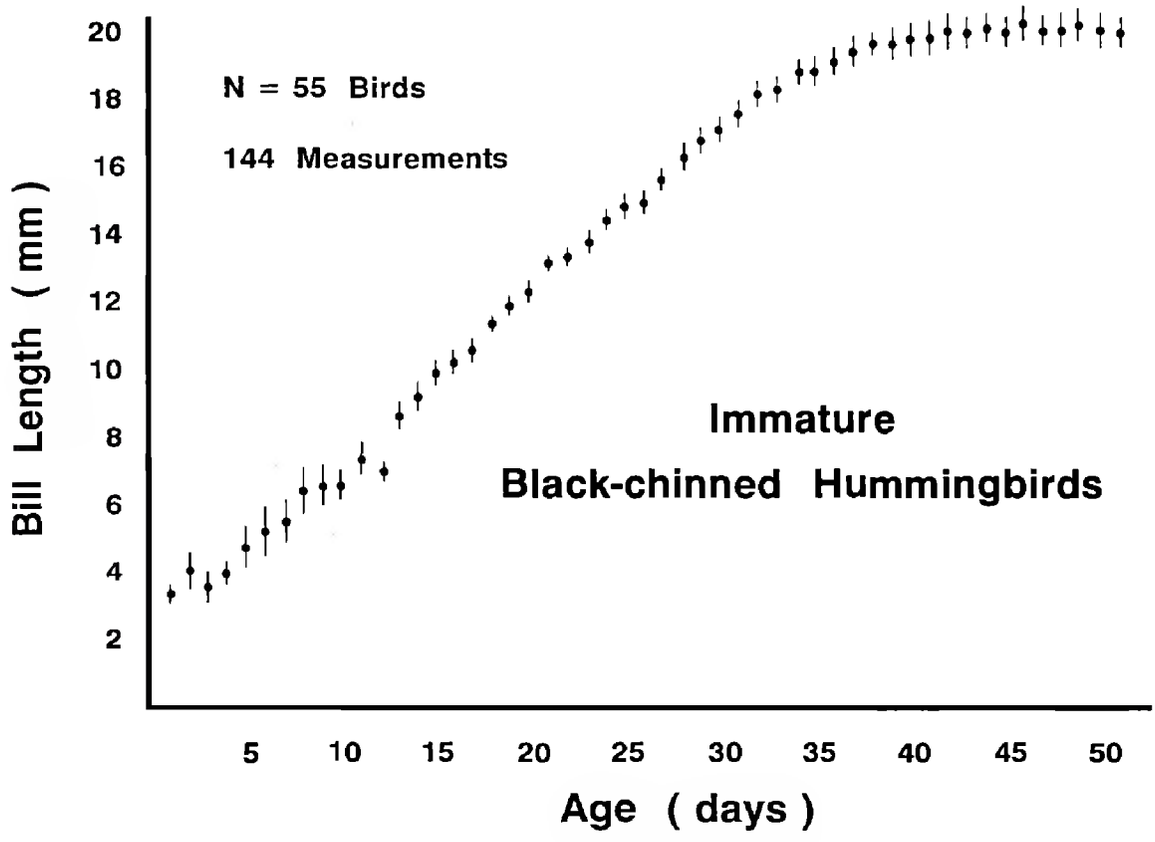

Figure 1. Bill length vs. age in young Black-chinned Hummingbirds (circle, mean; vertical bar, standard deviation), from 144 measurements of 55 birds. Data set includes 14 birds of unknown sex.

other miscellaneous causes affecting both young equally. Loss of the chicks within about 1 week of hatching is minimal, generally affecting both young when it does occur.

Siblings.—Assuming that each nest began with two eggs, three combinations are possible; nest mates are both male, there is one bird of each sex, or both are female. If, as we hypothesized, the ratio between the sexes tends toward 1:1, the ratio of these combinations should be 1:2:1. Our result (11 male/male, 14 male/female, and 10 female/female) does not differ significantly from this ratio ($G = 3.66$, $P > 0.05$).

If we assume that the 36 nests (sex of young in 1 nest not known) were a random, representative sample of the entire population, then the 72 nestlings should be equally divided between males and females. The *G*-test statistic for the 37 males and 35 females (unknown apportioned equally) is 0.06 ($P > 0.05$). Thus, there is no reason to reject our hypothesized 1:1 ratio.

Nonsiblings.—Data for single birds and pairs for which there was no guarantee of relatedness are shown in Table 1. The sex ratio in this sample varied greatly from year to year. Collectively, however, the data support the hypothesis of equal sex ratios for nestlings ($G = 0.42$, $P > 0.05$) and fledglings ($G = 0.37$, $P > 0.05$). This is not true for post-fledgling juveniles ($G = 6.15$, $P < 0.05$), however, as more males than females are brought to Wildlife Rescue for care.

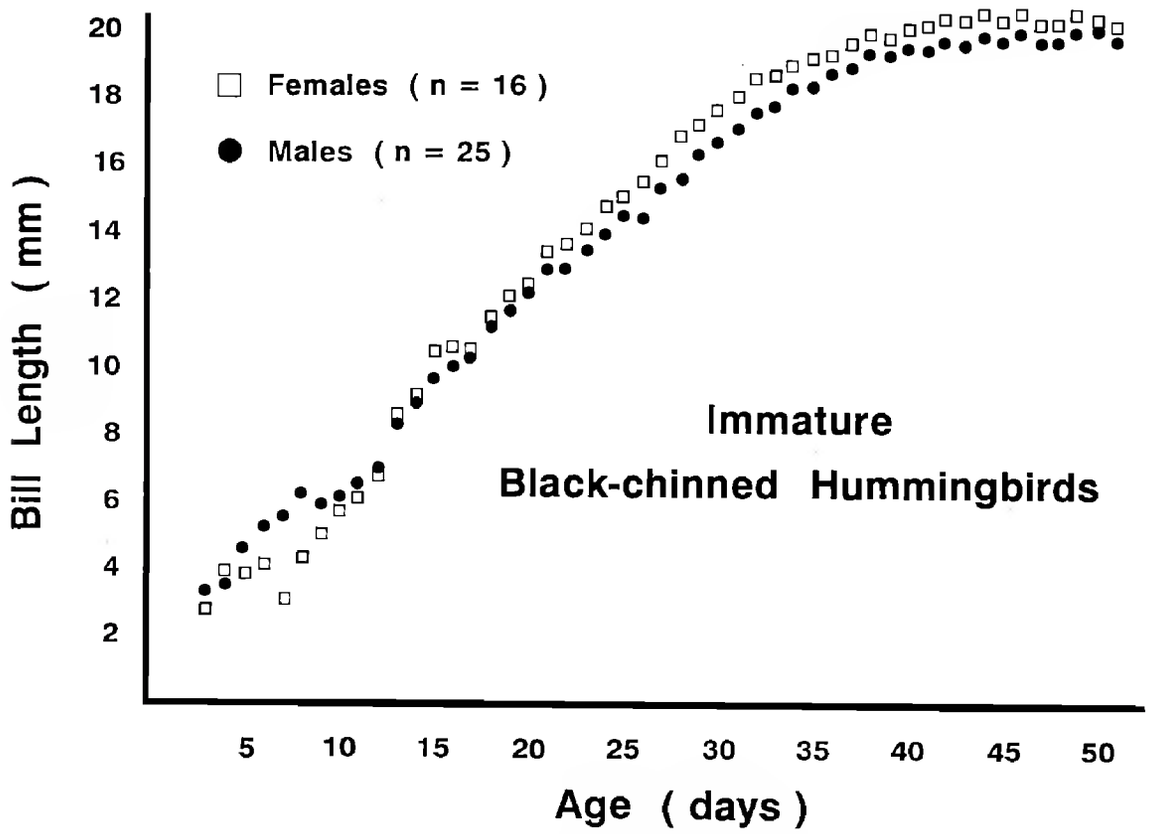

Figure 2. Bill length vs. age in young Black-chinned Hummingbirds. Squares, females ($n = 16$); circles, males ($n = 25$).

Table 1 Numbers of Nonsibling Black-chinned Hummingbirds by Sex and Age

Age (days)	Males	Females	Sex undetermined
Nestlings (1–20)	15	19	4
Fledglings (21–35)	20	16	7
Juveniles (36–49)	17	5	2

CONCLUSIONS

Our observations suggest that bill length, even in very young birds, can be a useful indicator of developmental age from hatching to independence. Similar growth patterns should be investigated in other hummingbird species. In the Black-chinned Hummingbird, the sex ratio of nestlings remains at 1:1 through fledging. Under Mendelian segregation, because birds have discrete sex chromosomes, a 1:1 ratio between males and females is to be expected (see Charnov 1982). Our data, however, suggest the ratio may shift shortly after fledging in favor of females. To our knowledge, this is the first attempt at providing empirical support for sex ratios in hummingbirds being equal at conception, hatching, and fledging.

We hope our work with the Black-chinned Hummingbird will stimulate others to investigate growth and sex ratios in other hummingbird species that can be sexed at an early age. Prime candidates in the western U.S. include the Anna's (*Calypte anna*; see Williamson 1956, Stiles 1971, Baltosser 1987), Costa's (*Calypte costae*; see Stiles 1971, Baltosser 1987), and Calliope (*Stellula calliope*; see Stiles 1971, Baltosser 1994). In the eastern U.S. work should continue (see Southwick and Gates 1975) on the Ruby-throated Hummingbird (see Leberman 1972, Baltosser 1987). Such efforts will ultimately provide a basis from which the phenomenon of female-biased sex ratios in adult birds can be better assessed.

ACKNOWLEDGMENTS

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DISTRIBUTION AND ABUNDANCE OF SNOWY PLOVERS WINTERING IN THE INTERIOR OF CALIFORNIA AND ADJACENT STATES

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Since the late 1970s, broad-scale surveys for the Snowy Plover (*Charadrius alexandrinus*) have been conducted in many western states (Page and Stenzel 1981, Wilson-Jacobs and Meslow 1984, Page et al. 1986, Herman et al. 1988, Halpin and Paul 1989, Page et al. 1991). In California, surveys of the breeding population have covered the entire state (Page and Stenzel 1981, Page et al. 1991), whereas surveys of the wintering population have focused mostly on the coast (Page et al. 1986). Knowledge of the status of the species in the interior in winter is therefore fragmentary (Page et al. 1986). Here we report the migration schedule, distribution, abundance, and habitat use of Snowy Plovers wintering in the interior of California based on the first comprehensive surveys of key wintering areas in the San Joaquin Valley and the Mojave and Colorado deserts. We also summarize records of plovers from other sites where they infrequently winter in the interior of California and other western states.

METHODS

As part of Point Reyes Bird Observatory's (PRBO) Pacific Flyway Project, we organized winter surveys of all shorebirds using most open shallow-water habitats in California's Central Valley, Mojave and Colorado deserts, and southern Great Basin desert. On the basis of prior knowledge (H. Coe, R. Marsh in litt.) and our initial surveys, we determined that 19 sets of agricultural evaporation ponds (totaling about 2576 hectares) were the primary wintering area for Snowy Plovers in the southern San Joaquin Valley (Figure 1). We surveyed these ponds at least once during each of the periods 6 November–1 December 1991, 15–31 January 1992, 18–30 November 1992, 23 January–5 February 1993, 9–29 November 1993, 15 January–1 February 1994, 9–22 November 1994, and 28 January–22 February 1995. Observers drove or walked impoundment dikes and carefully scanned suitable plover habitat with binoculars and spotting scopes. Roster et al. (1992) described the physical and biological characteristics of these highly productive saline impoundments.

Our standard multi-species shorebird surveys of the Salton Sea, Riverside and Imperial counties (21–22 November 1992, 6 February 1993, 21–22 January 1994), proved inadequate to detect many of these cryptic plovers on the broad beaches of the sea's vast shoreline. Hence, from 3 to 8 December 1993 and 1 to 9 December 1994 we made thorough specific searches for plovers in all areas of the Salton Sea with suitable habitat. Once to twice per winter from November 1991 to February 1995 we also surveyed most other areas possibly important to Snowy Plovers in the San Joaquin Valley and the southern Great Basin, Mojave, and Colorado deserts

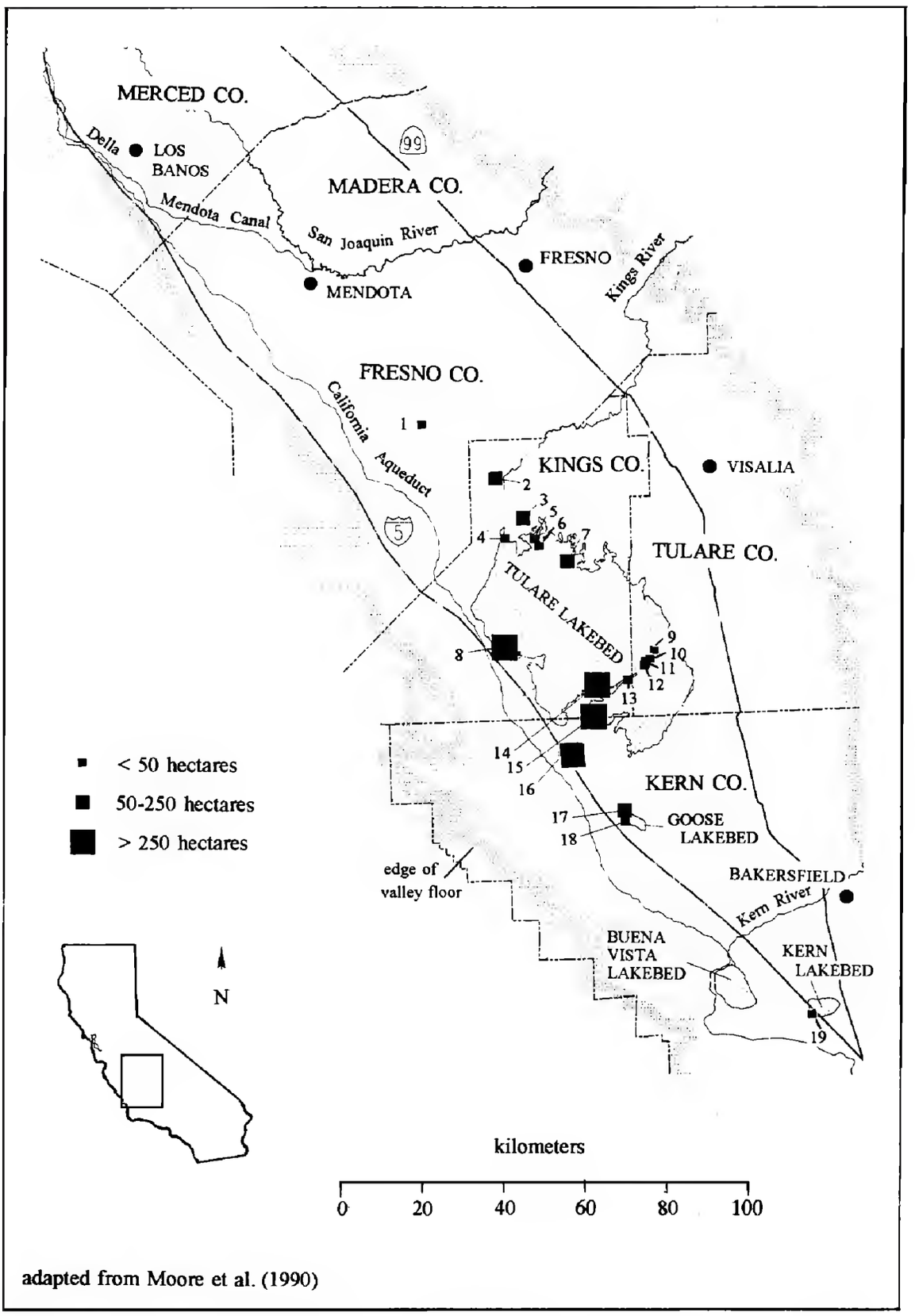

Figure 1. Agricultural evaporation ponds in the Tulare Basin of the San Joaquin Valley, California. 1, Britz Five Points; 2, Stone Land Co.; 3, Westlake Farms North; 4, Fabry Farms; 5, Meyers Ranch; 6, Barbizon Farms; 7, Tulare Lake Drainage District (TLDD) North; 8, Westlake Farms South; 9, Pryse Farms; 10, Bowman Farms; 11, Morris Farms; 12, Martin Farms; 13, 4-J Corp.; 14, TLDD Hacienda; 15, TLDD South; 16, Lost Hills Water District; 17, Carmel Ranch; 18, Lost Hills Ranch; 19, Rainbow Ranch.

of California (Appendix 1). Although we tried to make exhaustive surveys for plovers at all sites, we probably detected a higher percentage of plovers at the smaller, more contained sites, such as diked evaporation ponds, than at larger sites with long broad beaches or expansive alkali flats, such as the Salton Sea or Owens Lake. Lacking a color-banded population, we were unable to estimate detection rates for wintering plovers as Page et al. (1986, 1991) did for breeding plovers.

For additional winter records of Snowy Plovers from the interior of the western U.S., we searched the published literature, including the seasonal reports and Christmas Bird Counts (CBCs) in *Audubon Field Notes* (AFN), *American Birds* (AB), and *National Audubon Society Field Notes* (NASFN), and contacted regional and local experts in California, Washington, Oregon, Nevada, Arizona, and New Mexico. These sources helped us to characterize the seasonal limits of the Snowy Plover's period of winter residency.

RESULTS

Period of Winter Residency

For the interior of the West, the period of winter residency for Snowy Plovers is primarily November through February (Page et al. 1986). Fall departure from breeding sites varies regionally. In southern New Mexico, most fall migrants leave by early to mid-October but some linger into early November [e.g., up to 20 at Bitter Lake National Wildlife Refuge (NWR), Chaves County, on 2 November 1973; AB 28:88]. Along the lower Colorado River, Snowy Plovers are rare and irregular after September (Rosenberg et al. 1991) but may remain in fall until mid-November (Phillips et al. 1964). In the southern California deserts away from regular wintering sites, Snowy Plovers typically stay only until mid- to late September (T. and J. Heindel, J. Tarble in litt.). In Nevada, Snowy Plovers occasionally linger in fall into November (Alcorn 1988).

At colder sites in the wintering range, such as Harper Dry Lake and the Lancaster sewage ponds in the Mojave Desert of California, numbers of Snowy Plovers appear to dwindle over the winter (K. Garrett, E. Cardiff pers. comm.). By contrast, in areas of milder winters, such as the Salton Sea and San Joaquin Valley, plover numbers appear to remain fairly constant throughout the winter (see below).

The timing of the first influx of spring migrants to interior breeding areas generally ranges from early to late March. In southern New Mexico, early arrivals in spring have ranged from 8 to 17 March (AB 25:609, 26:639, 28:607, 39:336, 46:460), and large numbers have been detected as early as 22 March (1974, 124 at Bitter Lake NWR; AB 28:674). Late February records for New Mexico (see below) are problematic and may represent either wintering birds or very early spring migrants. Along the lower Colorado River, Snowy Plovers may arrive in spring by late March (Phillips et al. 1964, Rosenberg at al. 1991). They have arrived in the southern California deserts as early as 13 March (1974, Tecopa, Inyo County; J. Tarble in litt.) and build up rapidly thereafter (e.g., 24 at Edwards Air Force

Base, Kern County, on 24 March 1990; AB 44:496). In Nevada, Snowy Plovers arrive as early as 22 March (Alcorn 1988).

Wintering Status

In the interior of the West most wintering Snowy Plovers were found at evaporation ponds in the San Joaquin Valley and at the Salton Sea. The remaining plovers were found primarily at alkali lakes in the southern deserts.

San Joaquin Valley. The vast majority of the wintering Snowy Plovers on our surveys of the San Joaquin Valley were in evaporation ponds created to dispose of the salt-laden subsurface drain waters from irrigated fields (Table 1, Figure 1). Snowy Plovers were found on 10 of 19 evaporation-pond systems surveyed. Over four winters, totals for these ponds ranged from 79 to 185 [mean 135.2, standard error (SE) 18.8] plovers in November and from 53 to 174 (mean 101.0, SE 23.8) in January. The Westlake Farms North and Tulare Lake Drainage District's (TLDD) Hacienda Ranch ponds usually held the most plovers, except in November 1993 and 1994, when TLDD South held 95 and 68 birds, respectively (Table 1). Plover numbers at individual pond systems varied over the course of a winter, as demonstrated by nine counts from 15 November 1993 to 25 February 1994 at the Westlake North and Westlake South ponds, where totals ranged from 21 to 61 (mean 39.3, SE 3.5) and 3 to 31 (mean 12.3, SE 3.4), respectively (J. Seay in litt.). Other Snowy Plovers encountered on our surveys of the San Joaquin Valley were found on managed duck clubs in the

Table 1 Number of Snowy Plovers Counted at Agricultural Evaporation Ponds in the Southern San Joaquin Valley, California, in the Winters from 1991–92 to 1994–95

	1991–92		1992–93		1993–94		1994–95	
Pond System Name[a]	Nov	Jan	Nov	Jan	Nov	Jan	Nov	Feb
Jack Stone Land Co.	0	17	0	0	0	0	8	0
Westlake Farms North	77	5	48	47	48	35	19	0
Westlake Farms South	2	1	9	36	3	3	12	15
Bowman Farms	0	9	D[b]	D	D	D	D	D
Morris Farms	0	1	0	1	0	D	D	D
Martin Farms	0	0	0	2	0	0	D	D
TLDD Hacienda	0	13	79	80	35	62	25	34
TLDD South	0	5	4	2	95	11	68	10
Lost Hills Ranch	0	2	D	0	D	D	D	D
Rainbow Ranch	0	0	0	6	4	1	5	6
Totals	79	53	140	174	185	112	137	65

[a]No plovers were detected at 9 other sets of evaporation basins also surveyed during the same time periods in 1991-92 to 1994-95 (see Methods and Figure 1).

[b]D, evaporation basin dry at time of survey.

Grasslands wetlands complex near Los Banos, Merced County, at alkali ponds, or at sewage ponds (Appendix 1).

Page et al. (1986) listed the few records of Snowy Plovers wintering in the San Joaquin Valley before 1985. Subsequent winter records for the San Joaquin Valley, beyond ours for the Tulare Basin, are cited in Appendix 2.

Salton Sea. On multi-species shorebird surveys of varying amounts of the Salton Sea shoreline, not specially aimed at Snowy Plovers, observers tallied 112 plovers on 23 November 1991, 48 on 21 and 22 November 1992, 66 on 3 February 1993, and 40 on 21 and 22 January 1994. Our complete surveys of the Salton Sea, 3–8 December 1993 and 1–9 December 1994, which emphasized a thorough count of Snowy Plovers, yielded totals of 285 and 214, respectively (Table 2). The December totals were similar to or surpassed the breeding-season totals of 226 in May 1978 and 198 in May 1988 (Table 2). The distribution of wintering Snowy Plovers in 1993 and 1994 was generally similar to that of breeding birds, with the majority found along the western and southeastern shorelines (Table 2,

Table 2 Number of Snowy Plovers Counted in Winter along Various Segments of the Salton Sea, California (see Figure 2), with Comparisons to Prior Breeding Seasons

Shoreline Segment	4–12 May 1978[a]	4–14 May 1988[b]	3–8 Dec 1993	1–9 Dec 1994
(1) Whitewater R. delta	2	4	14	3
(2) Whitewater R.–Desert Shores	0	0	10	0
(3) Desert Shores–Salton Sea Beach	12	8	0	1
(4) Salton Sea Beach–Lido Palms	7	14	46	16
(5) Lido Palms–Iberia Wash	32	18	21	9
(6) Iberia Wash–Naval Test Base	38	14	102	31
(7) Naval Test Base	0	24	17	16
(8) San Felipe Creek delta	29	38	26	18
(9) San Felipe Creek–Barth Rd.	3	3	0	7
(10) Poe Road	0	0	15	3
(11) Near New River jetty	2	0	0	0
(12) Salton Sea NWR	0	7	3	0
(13) McDonald Rd.–Wister Unit	16	17	10	89
(14) Imperial Wildlife Area (Wister Unit) ponds	5	13	3	9
(15) North Wister–Niland Marina	33	11	0	0
(16) Niland Marina–Bombay Beach	29	26	13	7
(17) Bombay Beach	4	1	0	1
(18) near Bob's Playa Riviera	6	0	0	0
(19) Salt Creek Beach	6	0	0	0
(20) Desert Beach	2	0	5	4
Totals	226	198	285	214

[a]Data from Henderson and Page (1979).

[b]PRBO unpublished data summarized by Page et al. (1991).

Figure 2); wintering birds were, however, more clumped at roosting sites or favored feeding areas than were breeding birds. In 1993 two areas of concentration stood out: 46 birds were roosting at one site between Salton

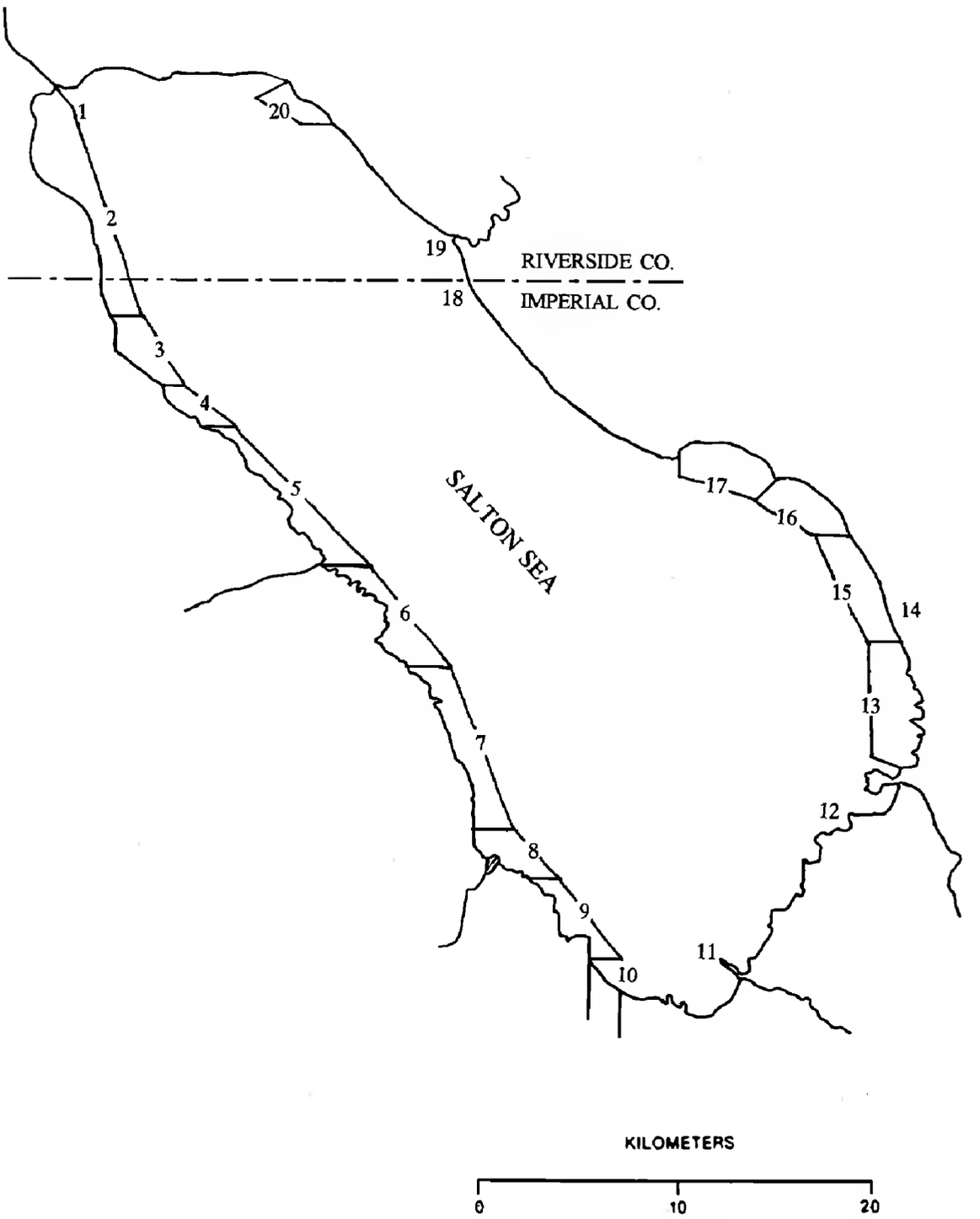

Figure 2. Salton Sea, California. Numbered sites or segments of the shoreline: 1, Whitewater R. delta; 2, Whitewater R.–Desert Shores; 3, Desert Shores–Salton Sea Beach; 4, Salton Sea Beach–Lido Palms; 5, Lido Palms–Iberia Wash; 6, Iberia Wash–Naval Test Base; 7, Naval Test Base; 8, San Felipe Creek delta; 9, San Felipe Creek–Barth Rd.; 10, Poe Road; 11, near New River jetty; 12, Salton Sea NWR; 13, McDonald Rd.–Wister Unit; 14, Imperial Wildlife Area (Wister Unit) ponds; 15, north Wister–Niland Marina; 16, Niland Marina–Bombay Beach; 17, Bombay Beach; 18, near Bob's Playa Riviera; 19, Salt Creek Beach; 20, Desert Beach.

Sea Beach and Lido Palms (area 4, Figure 2), and 102 were scattered along a 8-km stretch of beach between Iberia Wash and the north boundary of the Salton Sea Naval Test Base (area 6, Figure 2). In 1994 the highest single concentration of 89 plovers was scattered along a 8-km segment of the southeastern shoreline from the Wister Unit of Imperial Wildlife Area south to McDonald Road (area 13, Figure 2).

Other southern California sites. During surveys in the winters of 1992–93, 1993–94, and 1994–95 small numbers of Snowy Plovers were found at three sites in the Mojave Desert and at Lake Elsinore, Riverside County (Appendix 1).

A large number of other winter records of Snowy Plovers in southern California have now accumulated; most are from alkali lakes and sewage ponds in the southern Great Basin, Mojave, and Colorado deserts (Appendix 2).

Northern California. The only Snowy Plover found on our surveys in the Sacramento Valley was a single bird in a flooded fallow agricultural field about 8 km northwest of Colusa, Colusa County, on 25 January 1995 (C. Hickey). We know of no other winter records of Snowy Plovers from the Sacramento Valley. The latest records for the Sierra Nevada and Great Basin Desert, respectively, are of one at the south end of Lake Tahoe, El Dorado County, on 11 November 1961 (G. McCaskie in Page et al. 1986) and one or two at Mono Lake, Mono County, on 6 November 1990 (J. R. Jehl, Jr., pers. comm.). These November records probably represent late migrants rather than true winterers; the winter climate of both locations is typically too severe for overwintering plovers.

Arizona and New Mexico. Snowy Plovers winter infrequently in these states. We have found only nine winter records for Arizona, four from the Colorado River, the remaining five from scattered localities, Prescott being the northernmost (Appendix 2). For New Mexico we found five records, excluding the one of 9 at Laguna Grande, Eddy County, on 27 February 1993 (AB 47:287), thought to represent early spring migrants (AB 47:287). Four of the records are from playa lakes in the southeastern corner of the state.

Oregon, Nevada, and Washington. Three Snowy Plovers at Harney Lake, Malheur NWR, Harney County, on 27 February 1968 have been considered early spring migrants (Page et al. 1986, Littlefield 1990), but this seems extremely early given the average arrival date of 26 April at Malheur (Littlefield 1990) and the typical late March arrival of plovers inland in southern California and Nevada (see above). This undocumented record is also anomalous since there are no mid-winter records from the interior of California north of the Sacramento and Owens valleys and no winter records at all from elsewhere in the interior of Oregon (J. Gilligan in litt.), Nevada (Alcorn 1988, V. Mowbray pers. comm.), or Washington (B. Tweit pers. comm.).

Size of the Interior Wintering Population

Our surveys were most complete in November and December 1993 and 1994 when 499 and 283 Snowy Plovers, respectively, were located

wintering in the interior of California: Salton Sea (285, 214), evaporation ponds in San Joaquin Valley (185, 65), Lancaster sewage ponds (17, 2; on CBC), Harper Dry Lake (9, 0), and Grasslands (3, 2). We would likely have found a few more plovers in the interior in 1993 and 1994 if we had surveyed a few other sites in southern California and all suitable habitat in southern Arizona and New Mexico.

Habitat Use

Snowy Plovers wintering in the San Joaquin Valley were found primarily in evaporation ponds where shallow water was bordered with extensive alkali flats. They tended to forage on the moist alkali flats near the water's edge and to roost in depressions in raised areas of bumpy encrusted alkali. At the Salton Sea, foraging plovers were most frequent on moist flat beaches >20 m wide. They concentrated particularly on the margins of shallow receding lagoons perched on the beach slope above the main shoreline, often found on the broad deltas of creeks or washes. Plovers tended to roost on encrusted alkali near lagoons or on the barnacle- and driftwood-strewn berms of beaches. We also found plovers at five sets of sewage ponds, but they occurred more or less regularly only at the Lancaster sewage ponds in the Mojave Desert. There they roosted on the gravel- or rock-lined dikes, but it is unclear if they use these sewage ponds extensively for foraging. The five sewage ponds used by plovers are within a few kilometers of either alkaline wetlands (Los Banos sewage ponds), evaporation ponds (Lemoore Naval Air Station sewage ponds), or a playa lake (Edwards Air Force Base, China Lake, and Lancaster sewage ponds), habitats that the birds may use as primary or supplementary foraging areas. The bird seen on the 29 December 1985 Creighton Ranch–Corcoran CBC in the southern San Joaquin Valley was on exposed mudflats in a shallowly flooded fallow field (R. Hansen pers. comm.), as was the bird near Colusa in the Sacramento Valley on 25 January 1995 (C. Hickey pers. obs.). Rosenberg et al. (1991) reported that in the lower Colorado River Valley Snowy Plovers are "most frequently observed in plowed agricultural fields," presumably during migration, but this habitat appears to be very rarely used in winter anywhere in the West.

DISCUSSION

San Joaquin Valley

Our surveys establish that the Snowy Plover currently winters regularly in modest numbers at agricultural evaporation ponds in the southern San Joaquin Valley of California. Most of these ponds were built from the late 1970s to the mid-1980s (Moore et al. 1990) and were rapidly colonized by breeding (Ivey 1984) and wintering (Page et al. 1986) Snowy Plovers. Earlier winter counts of Snowy Plovers at the TLDD Hacienda and TLDD South evaporation ponds combined ranged from 4 to 36 (mean 19.7, SE 4.0) on 7 surveys from 7 November 1983 to 3 January 1984 and from 1 to 7 (mean 3.7, SE 0.6) on 11 surveys from 13 January to 29 February 1984 (H. Coe in litt.). Although the variation in numbers among the four years of our study (Table 1) precludes valid comparisons to the prior single-year

survey, it is clear that the Snowy Plover was well established in winter at least by 1983, five years after the TLDD ponds were built in 1978 (Moore et al. 1990). Surveys of 16 sets of evaporation ponds totaling about 2517 hectares in the winter of 1989–90 yielded totals of 42 birds in early November, 57 in early December, and 73 in early February (R. Marsh in litt.). These counts fall within the range of variation of our 1991–92 to 1994–95 counts (Table 1).

These data suggest that the wintering population of plovers on the evaporation ponds is generally smaller than the breeding population. Roster et al. (1992) counted a maximum of 181 adult-sized plovers on 12 sets of evaporation ponds in the breeding season of 1987. Because they did not differentiate between adults and full-grown juveniles and because their counts increased steadily over the breeding season, at a time when young would be fledging continually, their total likely overestimates the adult breeding population that year. Page et al. (1991) reported a raw count of 241 adult plovers on a survey of all evaporation ponds in 1988, but estimated a total of 339, on the basis of suspected low totals from ponds where Snowy Plovers were counted during multi-species surveys. J. Skorupa and D. Barnum (in Page et al. 1991) found 189 adult plovers at six sets of ponds in 1989. The average of our November and January counts (Table 1) implies that the wintering population on these ponds was about 66 in 1991–92, 157 in 1992–93, 148 in 1993–94, and 88 in 1994–95. Because of this variation, a survey of plover numbers over several consecutive breeding and winter seasons would be desirable to better establish the relative size of the breeding versus the wintering population.

The breeding grounds of the plovers wintering in the interior are unknown. Five Snowy Plovers color-banded as chicks at evaporation ponds in the San Joaquin Valley in 1989 wintered on the California coast in 1989–90 (Page et al. 1995, PRBO unpubl. data). Also, single color-banded birds sighted on 14 February 1990 at both the TLDD Hacienda and TLDD South evaporation ponds had been banded as young on these ponds in summer 1989 (J. Skorupa in litt.). They may have wintered on these ponds or may have wintered on the coast, returning early to set up for breeding in the San Joaquin Valley. More color-banding would be useful, to determine if some plovers hatched on the evaporation ponds are resident and, if so, what proportion of the population is resident and what proportion migrates to the coast or elsewhere.

Very limited information is available on the historical breeding status of the Snowy Plover in the San Joaquin Valley (Page and Stenzel 1981), and even less is known of the species' former status there in winter (Page et al. 1986). The Tulare Basin historically held the largest single block of wetland habitat in California, primarily in the form of shallow lakes and associated marshes (USFWS 1990). These playa lakes, in a region of high soil alkalinity (Preston 1981), must have provided ideal habitat for both breeding and wintering Snowy Plovers. The plover's use of these lakes went largely undocumented before they were drained. Because of the vast extent of former habitat, we suspect that plover numbers in the Tulare Basin may have rivaled or exceeded those in any other region in the interior of California.

Salton Sea

The largest population of Snowy Plovers wintering in the interior of the West is found at the Salton Sea. Lack of prior thorough surveys led Garrett and Dunn (1981) to conclude that the Snowy Plover "rarely" remains at the Salton Sea through winter (K. Garrett pers. comm.) and left Page et al. (1986) unable to estimate the size of the winter population there. Given that the Salton Sea is among the Snowy Plover's most important breeding areas in the interior of California (Page and Stenzel 1981, Page et al. 1991), that it has long been occupied by breeding birds (Page and Stenzel 1981), and that it has mild winters, it also seems likely that for decades since its creation in the early 1900s it has held a substantial wintering population of plovers. Page et al. (1986) speculated that the wintering population of plovers at the Salton Sea is smaller than the breeding population, but our surveys suggest that the wintering population is similar to or greater than the breeding population. Surveys at both seasons over several years are needed to assess this accurately.

Our total of 499 Snowy Plovers in the interior of California in the early winter of 1993 is about 200 more than the estimate by Page et al. (1986) of at most 300. By contrast, our total in 1994 was only 283. Our 1993 total is also about 20% of the 2500 that Page et al. (1986) estimated were wintering along the California coast. Doubtless the interior wintering population fluctuates as climatic conditions and management practices that affect habitat conditions for the plovers vary. For instance, November counts at two of the three sets of evaporation ponds that held the most birds during our study ranged from 0 to 79 and 0 to 95 over the four years. Our highest count of 95 plovers at the TLDD South evaporation ponds in late November 1993 was at a time when the ponds were drawn down for structural alterations, thereby exposing extensive alkali flats (J. Wilson pers. comm.). It would be desirable to improve the estimates of the year-to-year variation in the size of the interior wintering population of Snowy Plovers by conducting more winter counts and by measuring detection rates to account for plovers missed on surveys.

Root (1988), using Christmas Bird Count data, mapped the winter distribution of the Snowy Plover in North America and concluded that all populations were in areas that average warmer than 30° F (–1° C) in January. We plotted our more extensive record for the interior of the West on Root's (1988) contour map of average minimum January temperatures and found that plovers winter at many sites with average minimum January temperatures *lower* than 30° F (Figure 3). An average minimum January temperature of 20° F (–6° C) is a better temperature threshold, but Snowy Plovers nevertheless do not winter in an extensive area of lowland northern California warmer than this. Knowing that inland plovers concentrate on alkaline soil near saline water, we thought that some measure of aridity might also be helpful in predicting Snowy Plover distribution. This led us to plot winter records of Snowy Plovers in relation to both temperature and general humidity (as measured by pan evaporation rates). The best fit of our data was to an average minimum January temperature warmer than 20° F (–6° C) combined with an average annual pan evaporation rate greater than

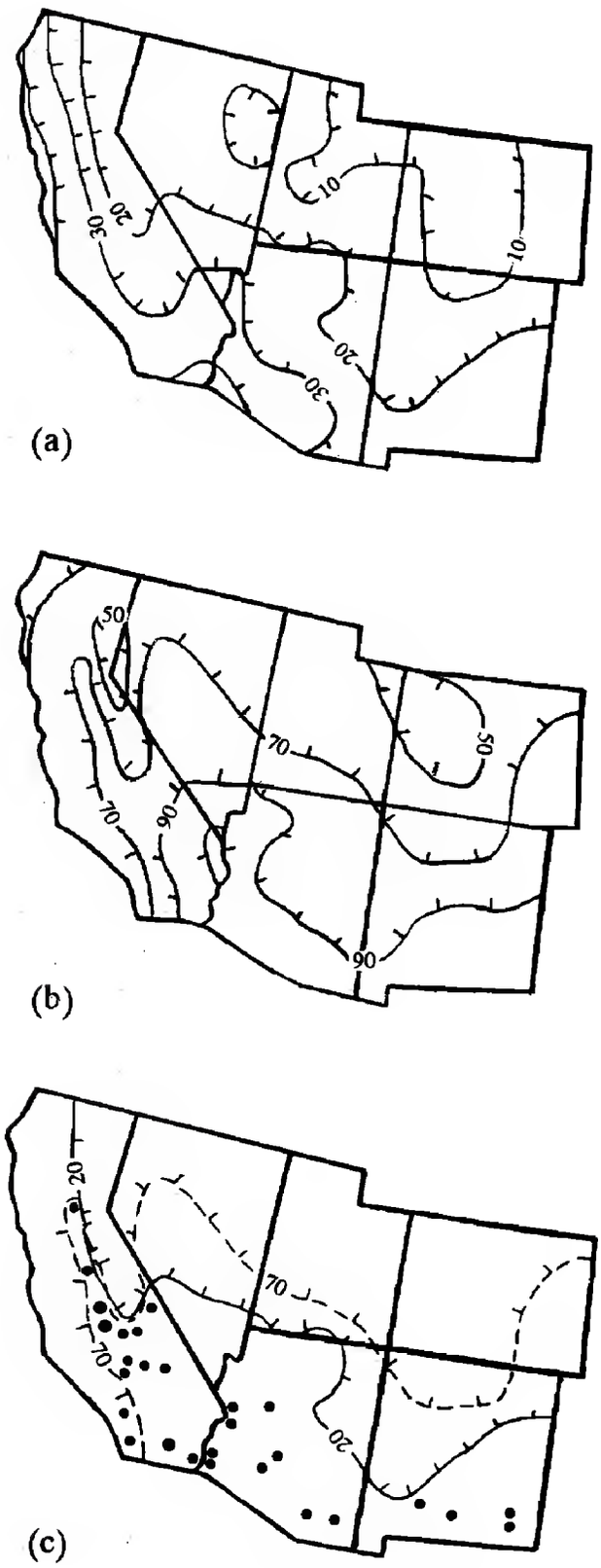

Figure 3. (a) Average minimum January temperatures with 10° F (5° C) contour intervals; tick marks point toward lower temperatures (from Root 1988). (b) Average annual general humidity, as measured by pan evaporation, with 20-inch evaporation contour intervals; tick marks point toward smaller values (from Root 1988). (c) Winter (15 Nov–15 Feb) records of Snowy Plovers in the interior of the West plotted relative to the isolines of 20° F average minimum January temperature and 70 inches average annual pan evaporation (general humidity) (adapted from Root 1988). Large dots, sites of regular wintering; small dots, sites of erratic wintering.

70 inches (Figure 3c). Thus aridity as well as warmth favors Snowy Plovers.

Although the increasing concentration of salts and trace elements, particularly selenium, in the San Joaquin Valley (e.g., Skorupa and Ohlendorf 1991, Ohlendorf et al. 1993) and at the Salton Sea (e.g., Schroeder et al. 1993, Setmire et al. 1993) has impaired the reproduction of some species of birds, to date the risk of toxicity to Snowy Plovers has been low (J. Skorupa pers. comm.). Ironically, Snowy Plovers may face habitat loss as pond owners seek means to reduce the toxicity risk to wildlife using these habitats (see Moore et al. 1990). Methods suggested to reduce bird use of contaminated ponds in the San Joaquin Valley include hazing, altering the pond's physical structure, and creating nearby uncontaminated wetlands as alternative habitat (Steele and Bradford 1991, Bradford 1992). While some such wetlands have already been constructed, both the total amount of alternative habitat and the proportion of freshwater and saline wetlands in it have yet to be decided (C. Taylor pers. comm.). Monitoring to determine the effect of these actions on the health and size of populations of the Snowy Plover and other species will be needed.

SUMMARY

Surveys over four years reveal that most Snowy Plovers wintering in the interior of the West concentrate in California at agricultural evaporation ponds in the southern San Joaquin Valley and at the Salton Sea. Small numbers of plovers also winter irregularly in deserts elsewhere in southern California, Arizona, and New Mexico, primarily at playa lakes. Surveys in 1993 found 499 Snowy Plovers wintering in the interior of California, about 200 more than had been estimated from prior partial surveys. The wintering population at the Salton Sea appears to be greater than or equal to the breeding population, but the converse appears to be true at evaporation ponds in the San Joaquin Valley. The inland distribution of wintering plovers in the West corresponds to arid climates (average annual evaporation >70 inches) and mild (average January temperature >–6° C) winters. Changes in management practices at the evaporation ponds designed to reduce the toxic effects of selenium on wildlife using the ponds may in the near future affect the amount and quality of habitat for plovers and other shorebirds.

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APPENDIX 1 Inland Winter Records of Snowy Plovers in California from This Study, 1991–92 to 1994–95, Other Than From Evaporation Ponds in the San Joaquin Valley (Table 1) or the Salton Sea (Table 2).

Survey Sites and Frequency

Sites in the San Joaquin Valley surveyed in January 1992, 1993, and 1994, January to February 1995, and November 1993 and 1994: the Grasslands wetlands complex of public wildlife refuges [San Luis NWR, Kesterson NWR, Merced NWR, Arena Plains NWR, Volta Wildlife Area (WA), Los Banos WA, Mud Slough WA, Salt Slough WA, China Island WA] and private duck clubs (two-thirds of the wetland area of the Grasslands) surrounding Los Banos, Merced Co.; Mendota WA, Fresno Co.; Pixley NWR, Tulare Co.; Kern NWR, Kern Co.; South Wilbur Flood Area, Kings Co.; and most sets of municipal sewage ponds and irrigation district ponds from Modesto, Stanislaus Co., south to Bakersfield, Kern Co.

Sites in the deserts of southern California surveyed in the winters of 1992–93, 1993–94, and 1994–95: Tinnemaha Reservoir, Inyo Co. (2 Dec 1994, 29 Jan 1995), Owens Lake, Inyo Co. (4 Dec 1993, 29 Jan 1994, 3 Dec 1994, 28 Jan 1995), China Lake sewage ponds, Kern Co. (2 Nov 1992, 23 Jan 1993, 3 Dec 1993, 2 Dec 1994, 28 Jan 1995), Edwards Air Force Base sewage ponds, Kern Co. (27 Nov 1992, 1 Feb 1995), Piute Ponds, Los Angeles Co. (23 Nov 1992, 2 Feb 1993, 3 Dec 1993, 30 Jan 1994), Lancaster sewage ponds, Los Angeles Co. (20 Nov 1992, 2 Feb 1993, 3 Dec 1993, 30 Jan 1994), Harper Dry Lake, San Bernardino Co. (6 Dec 1992, 1 Feb 1993, 5 Dec 1993, 12 Feb 1993, 11 Dec 1994), San Jacinto Valley, Riverside Co. (20 Nov 1992, 30 Nov 1993, 29 Jan 1994, 3 Dec 1994, 29 Jan 1995), Lake Elsinore, Riverside Co. (10 Dec 1993, 6 Feb 1994, 3 Dec 1994, 28 Jan 1995), and agricultural lands south of Blythe, Riverside Co. (8 Dec 1993).

Snowy Plover Records

Merced Co.: Duck clubs in Grasslands wetlands complex surrounding Los Banos, 3, 20 Nov 1993 (D. Shuford, C. Hickey); 5, 20 Jan 1991 (G. Page); 23, 8 & 11 Feb 1995 (C. Alexander, C. Hickey, H. Reeve, D. Shuford). Los Banos sewage ponds, 2, 9 Nov 1994 (D. Shuford).

Kings Co.: Small alkali ponds near Corcoran Irrigation District reservoir, Corcoran, 1, 28 Jan 1992 (J. Kjelmyr). Westlake Farms section 16 mitigation wetlands, 2.5 km E of Kettleman City, 2, 16 Feb 1995 (J. Seay). Lemoore Naval Air Station sewage ponds (formerly Carlton Duty evaporation ponds), 11, 14 Nov 1994; 9, 31 Jan 1994 (both T. Kroeker).

Kern Co.: Edwards Air Force Base sewage ponds, 1, 27 Nov 1992 (M. Heindel).

Los Angeles Co.: Lancaster sewage ponds, 20, 20 Nov 1992 (D. Shuford); 3, 3 Dec 1993 (K. Garrett); 9, 2 Feb 1993 (K. Garrett).

San Bernardino Co.: Harper Dry Lake, 9, 5 Dec 1993; 6, 6 Dec 1992 (E. Cardiff).

Riverside Co.: Lake Elsinore, 1, 6 Feb 1994 (M. A. Patten).

APPENDIX 2 Inland Winter Records of the Snowy Plover Other Than Those Generated by This Study

California

Merced Co.: Los Banos sewage ponds, 1, 26 and 27 Dec 1986 (AB 41:324); 2, 28 Dec 1992 (AB 47:949).

Kern Co.: Lake Isabella, 1, 25 Jan 1985 (AB 39:210). Carmel Ranch evaporation ponds (Figure 1), 5, 24 Nov 1990 (M. Heindel). China Lake sewage ponds, 1, 21 Dec 1990 (D. Blue). Edwards Air Force Base sewage ponds, 1, 23 Nov 1991; 5, 22 Dec 1990; 6, 30 Dec 1989; 8, 4 Jan 1989 (all M. Heindel).

Inyo Co. (all Owens Lake): "Northwest Seep," 1, 15 Dec 1984 (AB 39:785, D. Gaines); 9, 20 Dec 1986 (AB 41:1270). Keeler saltworks, 1, 20 Dec 1993 (NASFN 48:248); 2, 11 Jan 1976; 11, 28 Jan 1993; 3, 2 Feb 1993 (all T. & J. Heindel). Cottonwood Marsh, 16 km SSE of Lone Pine, 4, 23 Dec 1992 (M. Heindel, T. & J. Heindel). Exact location not recorded, 1, 27 Dec 1890 (Fisher 1893). Dirty Sock Springs, 2, 3 Jan 1975 (AB 29:742).

Los Angeles Co.: Lancaster sewage ponds, 10, 14 Dec 1991 (AB 46:977); 2, 17 Dec 1994 (*fide* Fred Heath); 17, 18 Dec 1993 (NASFN 48:833); 6, 19 Dec 1992 (AB 47:948). Rosamond Lake, 1, at least Dec 1981 through Feb 1982 (AB 36:331); 2, 15 Dec 1984 (AB 39:785); 26, 17 Dec 1983 (AB 38:789).

San Bernardino Co.: Harper Dry Lake, 4, 21 Nov 1988; 6, 23 Nov 1987; 5, 10 Dec 1988; 4, 27 Feb 1988 (all E. Cardiff). East Cronese Lake near Baker, 1, 19 Nov 1978 (AB 33:213).

Riverside Co.: Lake Elsinore, 6, 11 Dec 1981 (Page et al. 1986); 10, 30 Jan 1982 (AB 36:331).

San Diego Co.: Lake Henshaw, 1, 5 Nov 1978 (AB 33:213). Lake Hodges, 2–3, during winter 1979–80 (Garrett and Dunn 1981); 2, 6 Nov 1982 (Page et al. 1986).

Imperial Co.: West Pond, below Imperial Dam, 4, 23 Dec 1961 (W. C. Royall, Jr. and L. Olver *fide* G. Monson).

We have rejected the following records for lack of sufficient documentation: Los Angeles Co., "at reservoir" on the Pasadena–San Gabriel Valley CBC, 6, 29 Dec 1964 (AFN 19:331); Orange Co., Irvine Lake on the Orange Co. (northeastern) CBC, 20, 4 Jan 1981 (AB 35:721).

Arizona

Mohave Co.: Lake Havasu, 1, 20 Jan 1982 (AB 36:318).

Mohave and La Paz counties: Bill Williams R. delta, 2, 20 Oct 1952 to 7 Mar 1953 (G. Monson).

Yuma Co.: Martinez Lake, 1, 2 Feb 1977 (S. Furniss, USFWS, *fide* G. Monson). 1.5–3 km north of Imperial Dam, 1–2, 4 Nov 1960 to 1 Feb 1961 (G. Monson).

Yavapai Co.: Willow Lake, Prescott, 1, 24 Nov 1985 (AB 40:151).

Maricopa Co.: Phoenix, 1, 28 Dec 1963 (AFN 18:295, Monson and Phillips 1981). Near Gila Bend on Gila River, 7, 15 Jan 1974 (AB 28:674).

Pima Co.: Tucson, 1–2, 11 Oct to 3 Dec 1971 (AB 26:101).

Cochise Co.: Willcox, 1, 31 Dec 1976 (AB 31:359).

New Mexico

Sierra Co.: Elephant Butte Lake, 1, 14 Jan 1990 (P. Steel *fide* N. M. Ornithol. Soc. Field Notes 29:6).

Otero Co.: Holloman Lakes, 1, 23 Feb 1985 (AB 39:198).

Eddy Co.: Laguna Grande, 1, 28 Dec 1976 (AB 31:359); 1, 4 Jan 1987 (AB 41:315). Vicinity of Salt Lake, east of Loving, 1–2, 9–27 Jan 1975 (AB 29:725).

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NOTES

BREEDING BIRDS OF ESTEROS TÓBARI AND SAN JOSÉ, SOUTHERN SONORA

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Although the ornithofauna of Sonora has been studied since, at least, the 19th century (van Rossem 1945), it is still rather poorly known. This is particularly true for its southern coastal area. Van Rossem and Hachisuka (1937) provided an extensive list of water birds from Estero Tóbari but found little evidence of local breeding for most species. In 1971 and 1972, Knoder et al. (1980) made aerial surveys of water birds and wetlands along the coasts of Baja California and the west coast of mainland Mexico, from the delta of the Río Colorado to San Blas, Nayarit, but did not include Estero Tóbari as one of their intensively surveyed sites.

Here we report on the breeding birds that we recorded on a trip to esteros Tóbari (including Isla Huivulai) and San José on 14 May 1994 (Figure 1). In Estero Tóbari, we surveyed the north and south mouths of the bay, two islets outside the north mouth, and two heronries on the southeast and northwest sides of Isla Huivulai. San José is a small fishermen's town 8 km northwest of the north mouth of Estero Tóbari, with an estero and a large saltflat nearby, both of which we surveyed. We visited also an abandoned shrimp farm at the north end of Estero Tóbari. The main purpose of our trip was to search for Least Tern breeding colonies.

Great Blue Heron (*Ardea herodias*). A heronry in NE Isla Huivulai contained eight nests, one with two half-grown chicks. On the west coast of mainland México, Great Blue Herons breed from the delta of the Río Colorado (Palacios and Mellink 1993) south to, at least, San Blas, Nayarit (Knoder et al. 1980). Griffing Bancroft (unpublished field notes) had found this species as a breeder at Estero Tóbari in 1930, and van Rossem and Hachisuka (1937) collected a specimen in breeding condition from there.

Great Egret (*Casmerodius albus*). Two heronries in SE and NE Huivulai had about 15 pairs with nests each. Van Rossem and Hachisuka (1937) had recorded this species as a breeder from the area.

Snowy Egret (*Egretta thula*). There were 20 pairs in the SE heronry and about the same number in the NE heronry on Isla Huivulai. The Snowy Egret is reported as occurring along the Pacific coast of Mexico from Puerto Peñasco south to the Istmo de Tehuantepec (Knoder et al. 1980) and being a resident from Guaymas south (van Rossem 1945), but no previous breeding records exist for southern Sonora.

Little Blue Heron (*Egretta caerulea*). We found three pairs with nests in each heronry on Isla Huivulai. This species is known to occur from Punta Sargento south to the Istmo de Tehuantepec (Knoder et al. 1980) and to be a summer resident of the mangrove association of southern Sonora (van Rossem 1945), but no particular breeding locations had been published.

Tricolored Heron (*Egretta tricolor*). We saw five adults feeding on the mudflat in front of the heronry in NE Isla Huivulai; we presume nesting. Like previous species, this heron has been noted from Guaymas south to Tehuantepec (Knoder et al. 1980) and to be a resident of coastal lagoons in southern Sonora (van Rossem 1945), but no specific breeding locations had been provided.

Reddish Egret (*Egretta rufescens*). We found three pairs with nests in each heronry on Isla Huivulai. This species ranges from Puerto Peñasco to Tapachula, Chiapas (Knoder et al. 1980). Bancroft (unpublished field notes) found this species breeding at Estero Tóbari, and van Rossem and Hachisuka (1937) collected a specimen in breeding condition there.

Cattle Egret (*Bubulcus ibis*). About 100 pairs were nesting in each heronry of Isla Huivulai. This is the second breeding record for Sonora of this still-expanding species (see Mellink and Palacios 1993).

Green Heron (*Butorides virescens*). We found one pair on a nest in the SE heronry, and five pairs with nests in the NE heronry. This secretive species, which is often overlooked and underestimated, was collected in breeding condition at Estero Tóbari by van Rossem and Hachisuka (1937).

Black-crowned Night-Heron (*Nycticorax nycticorax*). We found three pairs nesting in the SE heronry and several individuals, with no evidence of nesting, in the NE heronry. There were one adult and one immature in nearby agricultural drains. This species is often overlooked, even from the ground. Therefore, very likely there were more individuals in the area. Bancroft found a nest with three eggs on Isla Huivulai on 11 June 1930 (deposited at the Western Foundation of Vertebrate Zoology [WFVZ]), and van Rossem (1945) reported it as a resident on "suitable . . . localities" throughout the state.

Yellow-crowned Night-Heron (*Nycticorax violaceus*). We found 20 pairs with nests and one immature in the SE heronry and 20 pairs with nests in the NE heronry on Isla Huivulai. One hundred thrity individuals (including 2 immatures) were foraging throughout the bay and in nearby drains. Bancroft collected nests from apparently four sites on Isla Tóbari [=Huivulai] in Estero Tóbari on 27 April 1930 (6 sets of eggs deposited at WFVZ). Van Rossem (1945) reported this species as a local resident on coastal lagoons.

White Ibis (*Eudocimus albus*). The SE heronry of Isla Huivulai had 100 adults, including 37 nesting pairs. The NE heronry had about the same number. We found 20 adults and three immatures at Paredón Colorado, in the central part of Estero Tóbari. The species occurs from Guaymas south to the Istmo de Tehuantepec (Knoder et al. 1980) and has been reported in spring and summer from Estero Tóbari (van Rossem 1945). In May 1930 Bancroff took eggs from two nearby locations, Laguna Guásimas and Isla Lobos (deposited at WFVZ).

Roseate Spoonbill (*Ajaia ajaja*). We found 15 pairs with nests in the SE heronry. There were none in the NE heronry. Knoder et al. (1980) found this species from Los Mochis south to the Istmo de Tehuantepec, and the AOU (1983) considered it a resident only from northern Sinaloa south. This is the first breeding record for Sonora.

Common Moorhen (*Gallinula chloropus*). We saw three broods (2 or 3 chicks per brood for 8 chicks; 4 adults) in various agricultural drains near Estero Tóbari.

Snowy Plover (*Charadrius alexandrinus*). On the San José saltflat there was one pair calling and performing a distraction display, and one empty shell-lined nest. There was one adult at Paredón Colorado and one adult on the islets at the northern mouth of Estero Tóbari. No previous nesting records of this species in Sonora have been published, and the AOU (1983) did not include Sonora within the breeding range of this species.

Wilson's Plover (*Charadrius wilsonia*). We saw 20 pairs in Estero de San José; all birds were calling and performing distraction displays, including broken-wing behavior; one adult had a chick less than a week old. Five pairs were on the saltflat near San José. One adult performed distraction behavior at the abandoned shrimp farm north of Estero Tóbari. An eggshell found near this site by M. Tordecillas (pers. comm.), 5 May 1994, probably was from this species.

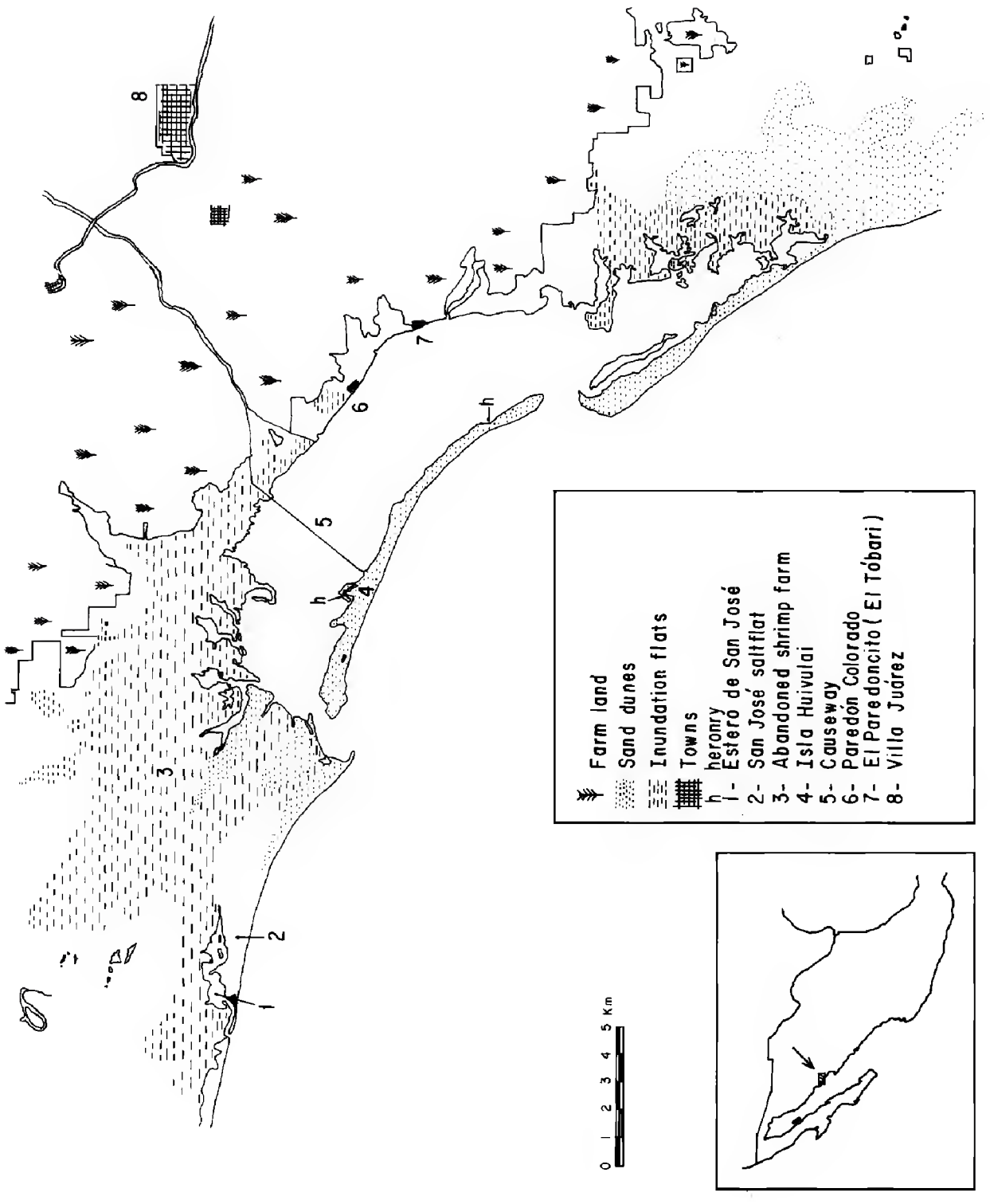

Figure 1. Estero Tóbari, including Isla Huivulai, and San José, with its associated estero and saltflat.

American Oystercatcher (*Haematopus palliatus*). There were six pairs nesting on the shell dump south of El Paredoncito (also named El Tóbari), at the south side of Estero Tóbari; one of the birds performed attraction display. There was one pair on a tiny islet in front of El Paredoncito, six pairs, one with three eggs, on the islets outside the north mouth of the bay, and two pairs on the north end of Isla Huivulai. At the Estero de San José there were three pairs, one with three chicks, and at the San José saltflat, two pairs, of which one individual performed pseudo-incubation.

Least Tern (*Sterna antillarum*). We found five aggregations of this species: south side of the south mouth of the bay (82 adults), north side of the north mouth of the bay (34 adults), islet outside the north mouth of the bay (28 adults), Estero de San José (15 pairs nesting; 4 nests had 2 eggs each and 1 nest, 1), and San José saltflat (15 pairs nesting; 3 nests had 2 eggs each). Although, we confirmed nesting only at San José, the birds looked like they were nesting on the islet outside the north mouth. There is a chance that this colony was wiped out by the high tides preceding our visit. Conservation of these colonies of Least Terns is important because, being at the type locality of *S. a. mexicana*, they are relevant to the taxonomic status of Least Terns in northwestern Mexico.

Black Skimmers (*Rynchops niger*) We found 50 adults together with Black Terns (*Chlidonias niger*) on the islet of the north mouth. There were nest-like depressions in the sand, but no definite evidence of nesting. Van Rossem and Hachisuka (1937) indicated that "it was perfectly evident that the breeding season was at hand," although they too failed at finding nests.

White-winged Dove (*Zenaida asiatica*). We heard several singing in both heronries but did not search for evidence of nesting.

Other resident species that we observed and that probably nest in the area, but for which we found no evidence, include five pairs of ducks resembling Mexican Ducks (*Anas diazi*) in nearby drains (it is likely that they are feral domestic ducks), Clapper Rail (*Rallus longirostris*; 1 in the NE heronry), Black-necked Stilt (*Himantopus mexicanus*; 7 adults on one of the islets outside the northern mouth of the bay; 5 elsewhere in the bay), Killdeer (*Charadrius vociferus*; 5 adults throughout the bay), Savannah Sparrow (*Passerculus sandwichensis*; several near El Paredoncito). On the other hand, it was somehow surprising not finding any Wood Storks (*Mycteria americana*), which were reported as common by van Rossem and Hachisuka (1937), nor any Black-bellied Whistling-Ducks (*Dendrocygna autumnalis*), which are resident from central Sonora south (AOU 1983) and abundant in the area (L. A. Moreno-Matiella pers. comm.).

On the whole, the local breeding bird community is more similar to communities in northern Sinaloa (e.g., Knoder et al. 1980, Carmona and Danemann 1994) than to those in northern Sonora (Mellink and Palacios 1993). This is not surprising, as the heronries of Estero Tóbari were found in mangroves, like those in northern Sinaloa, rather than in Sonoran desert scrub (*sensu* Brown and Lowe 1980) as to the north.

We observed also several late migrants or oversummering coastal birds, throughout the area: Black-bellied Plover (*Pluvialis squatarola*; 3), Marbled Godwit (*Limosa fedoa*; 1000), Whimbrel (*Numenius phaeopus*; 20), Long-billed Curlew (*Numenius americanus*; 3), Willet (*Catoptrophorus semipalmatus*; 4), dowitcher (*Limnodromus* spp.; 750), Sanderling (*Calidris alba*; 56), Western Sandpiper (*Calidris mauri*; 400), Black Tern (33 adults and 4 first-spring birds on one of the islets outside the northern mouth of the bay; 6 adults in Estero de San José, overflying the Least Tern colony), and Laughing Gull (*Larus atricilla*; 2 in Estero de San José). Of these, the Whimbrels and Black Terns had not been reported for this area.

Contrasting our data with that of Knoder et al. (1980) shows that mangrove-associated birds are easily overlooked and underestimated from the air (see also Carmona and Danemann 1994). Sampling from the ground should be a regular

complement of aerial surveys, at least of those over heavily vegetated habitats, like mangroves.

Our visit to the area was too short to disclose the threats to the nesting birds. However, some points should be made. Villa-Ibarra and Ibarra-Gámez (1993) concluded that water discharge from the nearby "La Atanasia" shrimp farms could cause excessive plant growth or eutrophication in the Estero de San José, and determined that a nearby collector discharging into the same estero was a source of coliform bacteria.

Although fishing is intense, we did not see any direct effects on the birds. Isla Huivulai receives visitors who can drive as far as one of the mangroves, although this does not seem to happen very often. There are some potential threats from the agriculture that is practiced in the Valle del Yaqui, one of Mexico's main "Green Revolution" areas. This agriculture connects with Estero Tóbari through a series of drains that discharge into it. The most obvious threat would come from the pesticides that are heavily used in local farming. Also, chances are that discharge of sediments has increased and that these sediments are not being removed by tidal currents, which the causeway linking Isla Huivulai might disrupt.

This article greatly benefited from comments made by Gale Monson and Philip Unitt. We thank Miguel Angel Elizalde for transportation to the islands, Marisol Tordecillas for kindly sharing information with us, and Walter Wehtje and Clark Sumida for providing the museum records at WFVZ. Salvador González and Francisco J. Ponce assisted in typescript preparation. This work was made possible by a grant from the Consejo Nacional de Ciencia y Tecnología (CONACYT), México, to Eric Mellink.

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CASSIN'S SPARROW NESTING IN WYOMING

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Cassin's Sparrow (*Aimophila cassinii*) was first reported in Wyoming on 8 June 1978 near Columbine, northeastern Natrona County, in the central part of the state (Faanes et al. 1979). Another was reported in 1989 east of Glendo Reservoir in Platte County (Bill Hayes pers. comm.). On 28 June 1990, William Howe of the U. S. Fish and Wildlife Service found four singing males east of Torrington in Goshen County near the Nebraska border (Ritter 1990, Kingery 1990, Scott 1993). Singing males were reported annually from the same area from 1991 (Ritter 1991, Kingery 1991) through 1994 (O. K. Scott in litt.). We had been studying the vegetation of this area since 1986 but always too early or too late in the season to see or hear these sparrows. In 1993, we scheduled our work in this area periodically throughout the summer and planned to watch for the sparrows.

On our first visit of 1993, on 13 June, we did not see or hear any Cassin's Sparrows, but on our second visit, on 22 June, we observed several singing males. We continued to see singing males on subsequent visits: 27 June and 17, 24, and 31 July. On 31 July, while driving down a little-used trail 6.5 km east-northeast of Torrington (T24N, R60W, north half of the north half of section 6), where we earlier had observed a singing male, we flushed an adult with insects in its beak. We immediately stopped the vehicle, hoping to observe an adult feeding young. In a few minutes, the adult reappeared and landed about 25 m in front of us. A few minutes later, we saw the adult sneaking through the brush about 10 m from the vehicle. It then went behind us and finally we heard young being fed, but we were unable to pinpoint the location. The same pattern of feeding continued for about 2 hours, but we still could not locate the young or determine if they were in the nest or not. Finally, we decided to rush in the direction of the feeding on the next visit of an adult. When we did, the adult flushed from within 1 m of the rear of the vehicle. On examining the brush here, we immediately found the nest, which contained three feathered young and one unhatched egg. On being discovered, the young (Figure 1) promptly abandoned the nest and ran into the surrounding brush. The nest measured 90 × 100 mm outside diameter, 70 × 64 mm inside diameter, and 50 mm deep (Figure 2). It was lined with fine grass. The egg was white with no markings (Figure 2) and measured 19 × 16 mm. The nest was about 15 cm above the ground in a Sand Sagebrush (*Artemisia filifolia*). This appears to be the first record of the Cassin's Sparrow nesting in Wyoming.

The habitat here is largely consolidated rolling sandhills with the relief averaging about 15 meters. We estimated total vegetation cover at 60%. The most conspicuous plant is Sand Sagebrush. It averages about 5 dm high, and we estimated its cover at about 30%. Other common species include the Prairie Sandreed (*Calamovilfa longifolia*), Sand Bluestem (*Andropogon hallii*), Prickly Muhly (*Muhlenbergia pungens*), Blowout Grass (*Redfieldia flexuosa*), Spanish Bayonet (*Yucca glauca*), and Red-fruit Prickly Pear (*Opuntia macrorhiza*). Andrews and Righter (1992) and Rosche (1994) reported this same habitat for the species in Colorado and Nebraska, respectively.

On 15 August, we again visited the area and observed one adult with one juvenile and another single juvenile. On 28 August, we observed several adults and several independent juveniles in small loose feeding flocks with Brewer's (*Spizella breweri*), Chipping (*S. passerina*), Clay-colored (*S. pallida*), and Vesper (*Pooecetes gramineus*) sparrows and Lark Buntings (*Calamospiza melanocorys*). On 12 September, we saw no Cassin's Sparrows, but the other species that we observed on our previous visit were still there. During the nesting season, the only sparrows that we

Figure 1. Young Cassin's Sparrow that abandoned the nest on discovery, 31 July 1993, Goshen County, Wyoming.

Figure 2. Cassin's Sparrow nest in Sand Sagebrush with one unhatched egg, 31 July 1993, Goshen County, Wyoming. Three feathered young abandoned the nest on discovery.

saw in the area were the Grasshopper (*Ammodramus savannarum*), Lark (*Chondestes grammacus*), and Vesper and Lark Bunting. The *Spizellae* observed in August and September represent transients.

In 1994, we searched for Cassin's Sparrows in other areas of Sand Sagebrush in Goshen and Platte counties, Wyoming, but we found none. No other areas had this community as well developed as where the sparrows were nesting.

Faanes et al. (1979) reported a northward range extension of Cassin's Sparrows into Nebraska and South Dakota beginning about 1974. The colony in Goshen County, Wyoming, may date from approximately that time.

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HOUSE WRENS FEEDING FISH TO THEIR NESTLINGS

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The House Wren (*Troglodytes aedon*) is a primarily insectivorous passerine that gleans most of its food from shrubs or trees (Kendeigh 1941, Guinan and Sealy 1987, 1989). Although the Winter (*Troglodytes troglodytes*) and Carolina (*Thryothorus ludovicianus*) Wrens have been reported to feed on vertebrates occasionally (Haslam 1844, Bent 1948, Huxley 1949, Bagnall-Oakley 1968), we found no reports in the literature of House Wrens feeding on vertebrates. We report here House Wrens feeding fish to their nestlings.

We established a grid of 50 nestboxes, placed at 50-m intervals, at Daniels Pass, 24 km east of Heber, Utah. The plot is located on an east-facing slope in a forest of Quaking Aspen (*Populus tremuloides*) with White Fir (*Abies concolor*). The understory is dominated by Mountain Snowberry (*Symphoricarpos oreophilus*). There is a seep north of the plot, and an intermittent stream runs to the southwest of it.

During the breeding seasons of 1987, 1988, and 1989, we monitored the nestboxes, used mainly by House Wrens and Tree Swallows (*Tachycineta bicolor*). The boxes were built to facilitate the attachment of a small video camera that could film the inside of the box. The camera hole was blocked with a cork when the camera was not attached. Before filming, we placed a plexiglass lid on top of the box to allow light into the box. After the camera was attached, we waited 10 to 15 minutes before beginning filming to allow the birds to adjust to the intrusion on their environment.

During the three-year study period, 51 House Wren nests were monitored. We filmed each nest at least once while it contained nestlings during all years. Seventy-three videotapes, averaging 1.8 hours in length, were made. Adult birds were mist-netted and banded with U.S. Fish and Wildlife Service bands and color bands so that we could identify individuals in the field. See Pennock (1990) for further details on the study site and methods.

During our study, we observed adult House Wrens feeding small fish to their nestlings on five occasions. One case each was recorded in 1987 and 1988. Three cases at the same nest were recorded in 1989. The fish were whole and in some cases moving, so they probably were not scavenged. In each case, the fish were fed whole to the nestlings. The lengths of the fish, as measured from the videotapes by means of an image-analysis program on an IBM AT microcomputer, were 3.14, 2.76, 2.36, 1.27, and 0.89 cm. As evidenced by the videos, the House Wrens fed their young primarily with larval and adult Lepidoptera. Coleopteran and hymenopteran prey were also identified (Pennock 1990).

House Wrens frequently nest near water (Kendeigh 1941). The three pairs that fed fish to their nestlings all had water within their territory, at distances of 20 to 50 meters from the nest. Twenty, or 39%, of the nests monitored were located within 50 meters of a water source.

Although five incidents in nearly 150 hours of videotape, showing about 20 feeding bouts per hour, are not very many, fish may be regular in the diet of some House Wrens. The behavior, shown by different individual birds each year, was recorded in all three years of the study. In both 1987 and 1988, only one film was made of each nestbox. If this behavior was extremely rare, the probability of its being recorded in a two-hour sample of a two-week nestling period would be very low. In 1989, the

nestbox in which the parents fed fish to the nestlings was videotaped twice during the nestling period. Fish were fed to the nestlings during both taping sessions, and the activity was recorded twice during one of the sessions. These observations suggest the House Wren to be more plastic in its diet selection than may have previously been thought.

Funding during this project was provided by the Brigham Young University Zoology Department. Dr. Brian A. Maurer established the study plot and provided equipment for field work. Dr. Dennis K. Shiozawa provided equipment for analysis of the video tapes in his laboratory. Richard Jensen assisted in a comprehensive literature search.

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COMMENTARY

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Following up on the essay by Patten et al. (*W. Birds* 26:54–64), I would like to illuminate some of their comments from a local perspective. There are a number of things that local groups (e. g., the Sacramento Audubon Society) can do on a small scale (e. g., Sacramento County and the greater Sacramento area) to improve our knowledge of the distribution of California's birds. Sacramento Audubon maintains a file of observations, volunteered by members, that dates back to the early 1950s. We welcome written reports (submission encouraged on a monthly basis) of any observations members feel are noteworthy, as well as reports of the more unusual birds on a bird-report phone line. Since 1986, reported observations have been entered in a computer data base, and, over time, we hope to enter all pre-1986 records into this data base as well. Data for two local Christmas Bird Counts (Sacramento and Folsom) are also maintained in computer files. Sacramento Audubon has a records committee modeled on the California Bird Records Committee (CBRC) that compiles and reviews local reports of species of rare or unseasonal species not reviewed by the CBRC. Finally, Sacramento Audubon volunteers recently completed collecting data for a Sacramento County breeding-bird atlas, the results of which are in preparation. The level of effort is not up to that of some California counties, but it is probably better than most, if only because there is a relatively high density of observers in the Sacramento area.

Now, at the risk of sounding as if I am crying in my birdseed, I'd like to discuss some of the problems faced in implementing this system. First, very few people report observations on a regular basis, and because the majority of these report only rarities and find the phone line more convenient, only two or three submit written reports on a monthly basis. The use of bird "hot lines" in recent years has also exacerbated another problem—the tendency of people to bird in mobs, visit the same old birder-worn locales, and call up the tape when planning a day afield, rather than to go out exploring new places on their own. Finally, there is a tendency for those who become adept at identifying birds to grow restless with the local scene and start traveling further and further in search of new birds. Thus many of the local birders best qualified to assist on the Sacramento County breeding-bird atlas were too busy chasing rarities and visiting other countries to be of much use, and few have shown any interest in doing library research or data analysis in order to speed publication of the results.

But even if the system for data collection and analysis for Sacramento County, rudimentary as it is, were to flourish beyond our wildest expectations, it would still be operating to a great extent in isolation, rather than in an integrated statewide network of such local systems. At present, the data collected in computer files, summarized and edited four times a year and submitted, as a printout, to the regional editors for *National Audubon Society Field Notes*, is copied *by hand* into the regional "books." The overworked and unpaid regional editors are months behind in this task, and faced with tight restrictions on the lengths of their published summaries are often limited to discussing only the rarities in print.

Is the situation hopeless? I don't think so, but agree with Patten et al. that progress won't come easily. WFO sponsors the CBRC and occasionally other efforts to integrate field ornithology statewide (e. g., a series of county bird-atlas workshops at recent WFO meetings). Whether under the WFO banner or another banner yet to be unfurled, the challenge to us all is to expand this effort greatly and develop a useful system to compile, analyze, and integrate fine-scale data on the distribution and status of California birds.

PRESIDENT'S MESSAGE

The nineteenth annual meeting of the Western Field Ornithologists was held jointly with the Morro Coast Audubon Society in Morro Bay, California, 30 September through 2 October 1994. The meeting was a great success, from both a birding standpoint and by virtue of the excellent information presented during the Saturday paper session. In addition, Dr. Arnold Small provided an superb banquet presentation on faunal comparisons between the North and South poles. The birding highlights are too numerous to list, but a Streaked Shearwater (*Calonectris leucomelas*) observed during the pelagic trips illustrates a morsel. The Morro Coast Audubon Society organized all accommodations and produced an outstanding meeting plus activities. WFO is very thankful to the many volunteers who helped in the organization, field trips, and logistics for this meeting. One person who deserves special credit is Jim Royer.

The twentieth annual meeting will be held from 16 to 18 June 1995 in Spokane, Washington, jointly with the Washington Ornithological Society. Field trips will be conducted each day of the meeting, with special trips to Salmo Mountain, the high mountains of the Idaho panhandle, and the Palouse. On Saturday there will be an all-day paper session, followed by our usual banquet.

The meeting will be at an ideal time for birding in the Columbia Basin and Palouse of Washington and Idaho. This is WFO's first meeting in eastern Washington, so we are hoping for an outstanding turnout. Please plan to attend.

Robert McKernan
WFO President

Wing Your Way to . . .

Western Field Ornithologists

20th Annual Meeting

with the

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CORRIGENDUM

The statement in the final line of the summary in Erickson et al., First Record of the Marbled Murrelet and Third Record of the Ancient Murrelet for Mexico (*W. Birds* 26:39–45, 1995), concerning the southernmost locality for the Ancient Murrelet, is incorrect. Although the species is not known farther south than Ensenada on the Pacific coast of North America, a record for Lake Pontchartrain, Louisiana, and seven for Hong Kong (*Hong Kong Bird Report* 1993:51–52) are farther south. We regret any confusion this may have caused.

Richard A. Erickson and Michael A. Patten

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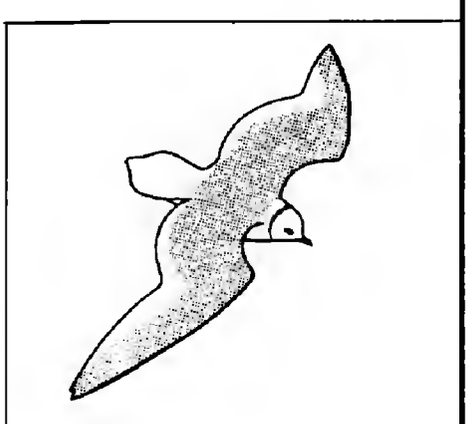

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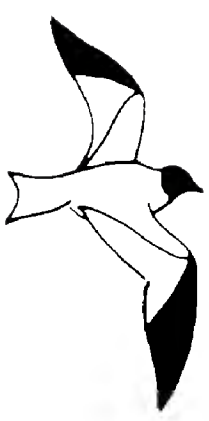

WESTERN BIRDS

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Cover photo by © Frans Lanting of Santa Cruz, California: Black-footed Albatross *(Diomedea nigripes)*, Midway Island, Northwestern Hawaiian Islands, July, 1994. This juvenile is about to fledge—"a brand new blackfoot."

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. The journal welcomes contributions from both professionals and amateurs. Appropriate topics include distribution, migration, status, identification, geographic variation, conservation, behavior, ecology, population dynamics, habitat requirements, the effects of pollution, and techniques for censusing, sound recording, and photographing birds in the field. Papers of general interest will be considered regardless of their geographic origin, but particularly desired are reports of studies done in or bearing on the Rocky Mountain and Pacific states and provinces, including Alaska and Hawaii, western Texas, northwestern Mexico, and the northeastern Pacific Ocean.

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WESTERN BIRDS

Volume 26, Number 3, 1995

SEVENTEENTH REPORT OF THE CALIFORNIA BIRD RECORDS COMMITTEE: 1991 RECORDS

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A concise overview of the California Bird Records Committee (hereafter "CBRC" or "the Committee") has not been published in many years, save for a brief sketch by Patten (1991). Therefore, this report begins with a bit of history and background, if only to inform the newest generation of field ornithologists who may not be entirely familiar with the Committee's functions and goals.

Following concerted effort by C. J. Ralph and others, the CBRC was established in 1970, the first records committee in North America. Originally it was called the "Rare Bird Committee" of the California Field Ornithologists, and its initial intent, as stated by Alan M. Craig (1970), was to "ascertain which of the multitudinous observations [made in California] are acceptable beyond any reasonable doubt." Some 4000 records later, this goal still stands, but rather than limiting itself to the review of sight records, the CBRC now reviews all records of vagrant birds reported in California, be they sight, sound, photographic, or specimen records. In general, records are reviewed only for species that average four or fewer occurrences per year in California and have been recorded fewer than 100 times. The Committee solicits information on all reports of species on its Review List, and any species potentially new to California, and encourages observers to support the Committee's review process by submitting written reports, photographs, tape recordings, and other documentation to the CBRC's secretary. With the exception of the Kentucky Warbler (*Oporornis formosus*), post-1994 records of which are no longer reviewed by the CBRC, the current Review List remains unchanged since the 16th report (Heindel and Garrett 1995). Copies of the Review List, the current state list, and the CBRC's by-laws are available from the secretary, Patten, at the address above.

The CBRC consists of ten voting members, one of whom acts as secretary. The secretary is responsible for cataloging all the documentation received, for ensuring that each record is circulated through the Committee, and for compiling the final record once it has completed circulation. Records are circulated by mail to all members of the Committee, each of whom reviews documentation constituting a given record. Each member is responsible for assessing whether or not the information provided is sufficient to support the identification of the reported species. For this reason, it is important for observers to include as many details as possible, no matter how trivial they may seem. The majority of records not accepted by the CBRC receive this verdict because documentation was not thorough enough to support the identification, not because the identification was necessarily incorrect. In some instances the more tenuous question of natural occurrence is the issue. In these instances each member reviews available information and judges whether a bird has more likely arrived under its own power or with deliberate aid from humans. Records span the continuum bounded by these scenarios, and individual philosophy of Committee members plays a substantial role in the decision-making process. Records for which information is insufficient to the extent that natural occurrence is uncertain may be placed on the Supplemental List. See Heindel and Garrett (1995) for a discussion of the natural-occurrence issue.

All information reviewed by the CBRC, including written documentation, photographs, videotapes, voice recordings, and comments of its members, is placed in a permanent archive at the Western Foundation of Vertebrate Zoology (439 Calle San Pablo, Camarillo, California 93012-8506). In this way the CBRC serves a valuable function to researchers, many of whom would otherwise presumably have a difficult time tracking down information about particular reports of vagrant birds. Records at the Western Foundation are catalogued by record number and are available to anyone interested in receiving information beyond what is published in the Committee's regular reports.

Other important functions of the CBRC are to maintain a checklist of California birds and to publish regular reports, such as this one, listing recent decisions. With regard to the state list, the first accepted records for California of the Arctic Loon (*Gavia arctica*), Alder Flycatcher (*Empidonax alnorum*), and Little Bunting (*Emberiza pusilla*) are included in this report. In addition, historical firsts (predating all other currently accepted records) for the Blue Jay (*Cyanocitta cristata*) and Gray Catbird (*Dumetella carolinensis*) are included. This report also covers prospective first records of Townsend's Shearwater (*Puffinus auricularis*), Canyon Towhee (*Pipilo fuscus*), and McKay's Bunting (*Plectrophenax hyperboreus*), none of which was considered acceptable by the Committee. With the additions listed above, and with recently accepted records of the Great Frigatebird (*Fregata minor*) and Fork-tailed Flycatcher (*Tyrannus savana*), both of which will be treated in the 18th CBRC report, the California state list currently stands at 586.

Format. This report contains records extending from December 1916 to June 1992, although the vast majority of the records are from 1991. Of the 232 records included, the Committee accepted 75.4%, a rate consistent

with the most recent two reports (Patten and Erickson 1994, Heindel and Garrett 1995). As is typical, the majority of accepted records were from coastal areas (±70%), with 15% of the coastal records from Southeast Farallon Island.

The format of CBRC reports is now standard. Species are listed in the same order as in the most recent *American Ornithologists' Union Check-list* (A.O.U. 1983) and supplements. Species names are followed, in parentheses, by the number of accepted records for California through the period covered by this report. Records are listed chronologically by first date of occurrence, except when an alternate arrangement allows for a clearer presentation. Each record includes the locality (including a standard abbreviation for the county; see below), a full date span (in general following that listed in *American Birds* or other published source), a list of observers who submitted documentation, and the CBRC record number. If the Committee has evidence that a published date span is incorrect, the CBRC-accepted date(s) are listed in italics. Observers are listed alphabetically (by surname), except those who found and/or identified the bird; these observers are listed first, followed by a semicolon.

Birds returning for subsequent winters or after other lengthy absences are reviewed under separate record numbers, and the Committee judges (by simple majority) whether the subsequent record(s) involve(s) the same bird(s). The Committee does not decide issues of subspecies, sex, or age, although members often express their views on these issues in comments. Annotations in this report regarding subspecies, sex, and age are ours, although many are based upon the collective opinions of the Committee.

Abbreviations and Symbols. The Committee uses standard abbreviations for counties. Those appearing in this report are ALA, Alameda; BUT, Butte; CC, Contra Costa; COL, Colusa; DN, Del Norte; HUM, Humboldt; IMP, Imperial; INY, Inyo; KER, Kern; LA, Los Angeles; MNO, Mono; MOD, Modoc; MRN, Marin; MTY, Monterey; ORA, Orange; RIV, Riverside; SBA, Santa Barbara; SBE, San Bernardino; SBT, San Benito; SCL, Santa Clara; SCZ, Santa Cruz; SD, San Diego; SF, San Francisco; SIS, Siskiyou; SJ, San Joaquin; SLO, San Luis Obispo; SM, San Mateo; SON, Sonoma; VEN, Ventura.

Abbreviations for museums cited in this report are CAS, California Academy of Sciences, San Francisco; CSUC, California State University, Chico; HSU, Humboldt State University, Arcata; LACM, Natural History Museum of Los Angeles County, Los Angeles; SBCM, San Bernardino County Museum, Redlands; SDNHM, San Diego Natural History Museum, San Diego. Other abbreviations are AFB, air force base; Co., county; I., island; L., lake; mi., miles; mtn., mountain; nmi., nautical miles; NM, national monument; NP, national park; NS, national seashore; NWC, naval weapons center; NWR, national wildlife refuge; pt., point; SB, state beach; SP, state park.

Symbols used in this report are as follows: an asterisk (*) preceding a species name indicates that species is no longer on the CBRC Review List. Symbols following an observer's initials signify that the observer submitted a photograph (†), a videotape (‡), or a voice recording (§). These symbols are

used only if the documentation submitted supported the identification of the bird(s) in question. See Patten and Erickson (1994) for a more complete explanation of abbreviations and symbols used in CBRC reports.

RECORDS ACCEPTED

ARCTIC LOON *Gavia arctica* (2). One at Abbott's Lagoon, Pt. Reyes NS, MRN, 2–17 Nov 1991 (SNGH, DLR; SFB, JLD, GHF, FG, HG, BH†, CHK, THK, LL‡, MJL, GMcC, JM, MAP, MMR, DR†, RS, MMT†, SBT, JT†, BY; 182-1991) was the first of its species to be found in California. On the heels of this bird was one at Morro Bay, SLO, 7–23 Dec 1991 (Figure 1; TME; SEF†, KAH, JTH, PEL; 83-1992).

These records were the first of confirmed Arctic Loons in North America outside of Alaska, although there is a tentative sight report from Massachusetts (Evered 1985) and another recent report from that state (*Bird Observer* 22:206); two British Columbia specimens alleged to be this species proved to be Pacific Loons (*G. pacifica*; Campbell et al. 1990). Reinking and Howell (1993) published a full account of the Pt. Reyes bird, with additional taxonomic and identification information on distinguishing the Arctic from the Pacific Loon. An excellent videotape of the first bird, and photographs of both, helped the Committee in its identification assessment of this difficult, recently split (A.O.U. 1985) species pair. See also Walsh (1988), Roberson (1989), and Schulenberg (1989) regarding the field identification of basic-plumaged Arctic Loons; notes by McCaskie et al. (1990) and Dunn and Rose (1992) cover alternate-plumaged birds.

Figure 1. First-winter Arctic Loon (83-1992) at Morro Bay, San Luis Obispo Co., 8 December 1991.

Photo by Shawneen E. Finnegan

MOTTLED PETREL *Pterodroma inexpectata* (52). Seventeen were between 37°10.45' N, 124°07.35' W and 37°00.67' N, 124°27.84' W, 66–90 nmi. SW of Pt. Reyes, MRN, 16 Nov 1991 (SFB†, JLD, JM, MMT†, SBT†; 186-1991). Photographs of two of these birds appeared in *Am. Birds* 46:143 and 46:169. Three were 80–84 nmi. SW of Pt. Reyes, MRN, 14 Dec 1991 (SFB, JMD†, RAE; 234-1991) as follows: 36°58.95' N, 124°03.86' W, 79.8 nmi. SW of Pt. Reyes; 36°57.63' N, 124°07.06' W, 82.6 nmi. SW of Pt. Reyes; and 36°56.74' N, 124°07.79' W, 83.6 nmi. SW of Pt. Reyes.

STEJNEGER'S PETREL *Pterodroma longirostris* (4). One was at 32°35.85' N, 122°46.36' W, about 152 nmi. SW of San Miguel I., SBA, 14 Nov 1990 (JLD; 103-1991). All four Stejneger's Petrel records accepted by the CBRC fall in the narrow window of 14 to 17 November. See Luther et al. (1983), DeBenedictis (1991), Kaufman (1991), McCaskie and Roberson (1992), and Heindel and Garrett (1995) for information about previous records for California waters.

BROWN BOOBY *Sula leucogaster* (38). An adult was 1 mile north of Santa Barbara I., SBA, 8 Aug 1991 (PP; 17-1992), and an adult considered to be the same bird was at the east side of Santa Barbara I., SBA, 2 Jun 1992 (DLJ; 233-1992). An immature was 2 miles west of the entrance to San Diego Bay, SD, 14 Dec 1991 (DP; 124-1992). Roughly one-fourth of California records are from the coast, where their occurrence appears more random than the marked invasions into the interior (mainly the Salton Sea).

RED-FOOTED BOOBY *Sula sula* (9). An immature female found ill at Redondo Beach, LA, 18 Aug 1991 was moved by animal control officials to King Harbor, LA, where it was documented (JAJ, DLM†; 33-1992). The bird was recaptured, but died in a rehabilitation center; unfortunately, the specimen was not saved.

REDDISH EGRET *Egretta rufescens* (58). An immature was in the Tijuana R. Valley and estuary, SD, 22 Nov–15 Dec 1990 (GMcC; 4-1991); unfortunately, additional documentation from two observers (JO and RLR) was lost in the mail. An adult with a deformed bill returned for its tenth winter to the south end of San Diego Bay, SD, 13 Oct 1991–10 Jan 1992 (GMcC; 169-1991). An immature was at Del Mar, SD, 16–19 Oct 1991 (JO; RAE; 192-1991), and another immature was at the south end of San Diego Bay, SD, 11 Nov 1991-29 Mar 1992 (GMcC; CAM, SBT†; 1-1992). This distribution of records in this report is typical of the species in California: the Reddish Egret is a rare but regular fall and winter visitor to southwestern San Diego Co., but extremely rare elsewhere in the state.

YELLOW-CROWNED NIGHT-HERON *Nyctanassa violacea* (16). Two were together in the Tijuana R. Valley, SD, 13 Oct 1991–25 Jan 1992, with one remaining through 31 Mar 1992 (GMcC; RCa, JLD, DR; 170-1991, 171-1991). One (170-1991) was treated as having returned for its second winter (same as 153-1990; Heindel and Garrett 1995), whereas the other (171-1991), a subadult that molted into adult plumage, had been present since 16 Jun 1991 (same as 88-1991; Heindel and Garrett 1995). An adult remained along the Los Angeles R., Glendale, LA, 13 Sep–30 Nov 1991 (KLG; JLD, MH†, SJ; 219-1991), the third acceptable county record. This species is scarcer in California than the other "southern herons," the Reddish Egret, Tricolored Heron (*Egretta tricolor*), and Little Blue Heron (*E. caerulea*).

GARGANEY *Anas querquedula* (14). Males in alternate plumage were at Woodland, YOL, 19 Jun 1988 (MC†, GE; 131-1988) and in Watsonville, SCZ, 2 Apr 1991 (KK; 61-1992). A female or immature male was at Arroyo Laguna, SLO, 2–13 Oct 1991 (TME†; GPS†; 230-1991).

The male at Woodland stimulated a lively debate regarding its natural occurrence, as it was nearly two months later than any previous spring record for California. The

date span for prior spring records is 10 March (1985; a male photographed at Modoc NWR, MOD; Dunn 1988) to 30 April (1990; a male present since 27 March 1990 at Bolinas, MRN; Patten and Erickson 1994). Though records are few, their peak appears to be late March. Given the several June records for British Columbia and Alberta (Spear et al. 1988), the species' supposed rarity in captivity in North America (Todd 1979, but cf. Knapton 1994), and its breeding or summering in the Old World as far south as the Iberian Peninsula (Cramp and Simmons 1977), the majority of the Committee felt that this bird was more likely of natural occurrence.

*TUFTED DUCK *Aythya fuligula* (70). A female at Mare I., Vallejo, SOL, 2 Feb 1991 (DA; 27-1991) was considered to be the same as one at L. Dalwigh, SOL, 21 Mar 1991 (MBG; 74-1991). An adult male returned for its fourth winter to the San Francisco, SF, and Rodeo Lagoon, MRN, area from 23 Oct 1991 to 7 Mar 1992 (SFB, LL, JM, MMR, DS†, RS, SBT; 216-1991). This bird moved among L. Merced, SF, Rodeo Lagoon, and several lakes in Golden Gate Park, SF, during its stay. Previous occurrences of this bird were 19 Nov 1988–27 Mar 1989 (257-1988), 9 Jan–26 Apr 1990 (7-1990/45-1990), 18 Jan–3 Mar 1991 (48-1991), and 29 Dec 1990 (56-1991). An adult male at L. Isabella, KER, 17–*19* Jan 1992 (GH; MOC, JLD, MTH, GMcC, MAP; 52-1992) was Kern County's second; *Am. Birds* 46:315 erroneously listed the date span as 17–18 Jan 1992. A male returned to Quail L., LA, 1 Feb–8 Mar 1991 (KLG; 103-1992) and 11–17 Nov 1991 (KLG; 19-1992); see Roberson (1993) for a summary of previous dates for this bird, which was in eclipse plumage in November 1991. The second for San Diego Co., and the first widely observed, was a male at Miramar Reservoir, SD, 13 Jan–9 Feb 1992 (PAG; TC, JLD, SEF, PEL, GMcC, MAP; 19-1992). Riverside County's third record was of an adult male in San Timoteo Canyon, RIV, 27 Feb–15 Mar 1992 (GMcC, MAP†; 71-1992).

As the Tufted Duck has proved to be a regular part of California's winter avifauna, albeit a very rare one, the Committee has ceased reviewing records after the winter of 1991/1992. Roughly 80% of the records are from the coastal slope of California from Los Angeles Co. northward.

KING EIDER *Somateria spectabilis* (31). A female was seen in flight at Pt. Reyes NS (Drakes Beach), MRN, 18 Oct 1991 (JM; 215-1991). An immature male at Seal Beach Pier, ORA, 13–31 Dec 1991 later moved one-half mile north to Belmont Shores, LA, where it stayed 7–19 Jan 1992 (CTC, BED, JRG†, KLG, GMcC, CAM, MAP†; 213-1991). A photograph of the Seal Beach bird appeared in *Am. Birds* 46:315.

STELLER'S EIDER *Polysticta stelleri* (3). California's third was at Bodega Bay, SON, 27 Oct 1991–2 May 1992 (Figure 2; SBT†; JA, SFB, SC, JLD, GHF, SEF†, EDG†, FG, HG, MBG, KHa, LL, MJL†, EM, JM, TM, GMcC, SWM, DWN†, MAP†, DR, MMR, RS; 181-1991); a photograph was published in *Am. Birds* 46:144. Despite initial confusion about this bird's age and sex (most observers commenting on this issue initially felt that it was a first-winter male), its plumage changed only in becoming browner during its stay. Thus, it appears to have been a female, perhaps even an adult.

ZONE-TAILED HAWK *Buteo albonotatus* (32). An adult was in San Diego, SD, 20–21 Dec 1916 (Grey 1917); it was collected on the latter date and is now an uncatalogued life mount (#SDNHM; 55-1993). This record was only the third for California. An adult at L. San Marcos, SD, 21–24 Dec 1991 (JOZ; 180-1992) was considered a returning bird (same as 107-1991; Heindel and Garrett 1995).

HUDSONIAN GODWIT *Limosa haemastica* (11). A juvenile was at Crescent City, DN, 29 Aug 1991 (ADB; GSL, BSi†; 132-1991); a photograph of it appeared in *Am. Birds* 46:145. Another juvenile first seen in flight at Arcata Bottoms, HUM,

6 Sep 1991, subsequently settled in at Mad R. Co. Park, HUM, 9–20 Sep 1991 (BBA; FJB, GSL, MHM; 188-1991).

BAR-TAILED GODWIT *Limosa lapponica* (12). An adult female showing the characters of the Siberian subspecies *L. l. baueri* was along the San Francisco Bay shoreline in Albany, ALA, 11 Aug–22 Sep 1991 (CC; SFB, JLD, GHF, SEF†, FG, HG, DGJ, GDJ, JM, SWM, SBT; 112-1991); a photograph was published in *Am. Birds* 46:145. This record is the first for Alameda Co.

LITTLE STINT *Calidris minuta* (4). An adult in alternate plumage was at the Wister Unit of the Imperial Wildlife Area, south end of the Salton Sea, IMP, 18 May 1991 (REW†; 72-1991). As of 1991, California records formed no clear pattern, with two juveniles in September on the central coast (Morlan 1985, Dunn 1988), a November specimen in basic plumage inland (Patten and Erickson 1994), and this May bird in alternate plumage in the interior.

*BUFF-BREASTED SANDPIPER *Tryngites subruficollis* (81). Up to three of unknown age were in San Jose, SCL, 25 Aug–14 Sep 1991 (PJM; 36-1991). Up to two juveniles were at Pt. Reyes NS (Spaletta Plateau), MRN, 26 Aug–12 Sep 1991 (JM, SBT, AWi; 147-1991). A bird critically scrutinized in the Tijuana R. Valley, SD, 26 Aug–7 Sep 1991 (JLD, GMcC; 122-1991) provided California with its only definite record of a fall adult. Two juveniles joined this adult 2–3 Sep 1991 (GMcC; 123-1991), and another juvenile was at Batiquitos Lagoon, SD, 8 Sep 1991 (GMcC; 124-1991).

Age determination of fall Buff-breasted Sandpipers can be difficult, although adults should have worn flight feathers. A whitish belly is a good character for juveniles, but some can show a nearly uniform buff belly and thus resemble an adult (P. Pyle in litt.). The best feature is the scapular and wing covert pattern: these feathers on fresh-plumaged juveniles have brown centers with black subterminal borders and white

Figure 2. The Steller's Eider (181-1991), apparently an adult female, that wintered at Bodega Bay, Sonoma Co., in 1991/1992. This photograph was taken 21 January 1992.

Photo by Ed Greaves

fringes, whereas adults have the centers more triangular and uniform dark brown with wider buff fringes.

JACK SNIPE *Lymnocryptes mimimus* (2). The second record for California, and only the fifth for the Americas, was of a bird shot at Colusa NWR, COL, 2 Dec 1990 (Figure 3; RBM; #HSU; 213-1990); the specimen is now a life mount. The finder immediately recognized it was not a Common Snipe (*Gallinago gallinago*). All other North American records are of specimens: St. Paul I., Alaska, spring 1919 (Hanna 1920); Makkovik Bay, Labrador, 24 Dec 1927 (Austin 1929); Gray Lodge, BUT, 20 Nov 1938 (McLean 1939, Roberson 1986); and Barbados, 12 Nov 1960 (Bond 1962).

SANDWICH TERN *Sterna sandvicensis* (3). An alternate-plumaged adult was at Malibu Lagoon, LA, 20 May 1991 (BPE; 84-1991), and another in basic plumage was at Bolsa Chica, ORA, 29 Jun–12 Jul 1991 (JLD, GMcC, CAM, MAP; 85-1991). Before, 1991, California had only one record, of a bird that frequented the Elegant Tern (*S. elegans*) colony at south San Diego Bay, SD, and was occasionally seen elsewhere on the bay and at the nearby San Diego R. mouth, 11–20 May 1980 (Schaffner 1981, Luther et al. 1983), 15 May–13 Jun 1982 (Morlan 1985), 12–14 Jun 1985 (Bevier 1990), and 18 Apr–16 May 1987 (Langham 1991). The Bolsa Chica bird, which also associated with an Elegant Tern colony, might have been thought the same as at San Diego. In any event, from differences in plumage, the Malibu and Bolsa Chica birds were evidently different individuals; that consideration, combined with the time since a Sandwich Tern last occurred, led to the 1991 individuals being considered different from that sporadically recorded from 1980 to 1987.

PARAKEET AUKLET *Cyclorrhynchus psittacula* (40). One was at 36°52.21' N, 123°53.86' W, 74 nmi. WSW of Pigeon Pt., SM, 14 Dec 1991 (SFB; JMD†, RAE, EDG†; 235-1991); photographs were published in *Am. Birds* 46:312 and 46:333. This species was formerly a regular winter visitor to California waters (Grinnell and Miller 1944); although records since the 1940s are scant, increased offshore coverage between late November and February may reveal that the species' status has changed little since that time.

RUDDY GROUND-DOVE *Columbina talpacoti* (38). Males were in Fremont Valley, KER, 21 Sep 1991 (BED; MTH; 199-1991) and 17–18 Oct 1991 (MTH†; 200-1991), at Baker, SBE, 25 Oct 1991 (RMcK; 58-1992), and at Iron Mountain Pumping Plant, SBE, 28 Oct 1991 (RAE; 193-1991). A female was at Stovepipe Wells, Death Valley NP, INY, 26 Oct 1991 (JLD†; 66-1992), and one of undetermined sex (see Patten and Erickson 1994) was with Inca Doves (*C. inca*) at the Bermuda Palms Trailer Park near Earp, SBE, 9 Dec 1991–10 Feb 1992 (Figure 4; JCS; GMcC, MH†, MJL, MAP, MMT†; 212-1991). Up to six were at Furnace Creek Ranch, Death Valley NP, INY, 29 Sep 1991–10 Jan 1992 (JLD†, GMcC, MAP; 128-1991); a photograph of four together was published in *Am. Birds* 46:150. The northernmost coastal record involved a female coming to a Goleta, SBA, feeder 5 Oct 1991–30 Jan 1992 (SEF†; JLD, PEL; 67-1992); it was first identified as a Ruddy on 30 December.

SNOWY OWL *Nyctea scandiaca* (69). A female taken at Walker Pt., Eureka, HUM, 1 Jan 1917 is now a life mount in the Sequoia Park gift shop in Eureka (GSL†; 175-1993). The winter of 1916/1917 saw a major incursion of this species into northwestern California (Grinnell and Miller 1944, Roberson 1986, Harris 1991).

Figure 3. California's second Jack Snipe (213-1990), collected at Colusa National Wildlife Refuge, Colusa Co., 2 December 1990.

Photo by Stanley W. Harris

Figure 4. Ruddy Ground-Dove (212-1991), age/sex unknown, at the Bermuda Palms Trailer Park near Earp, San Bernardino Co., 21 December 1991.

Photo by Monte M. Taylor

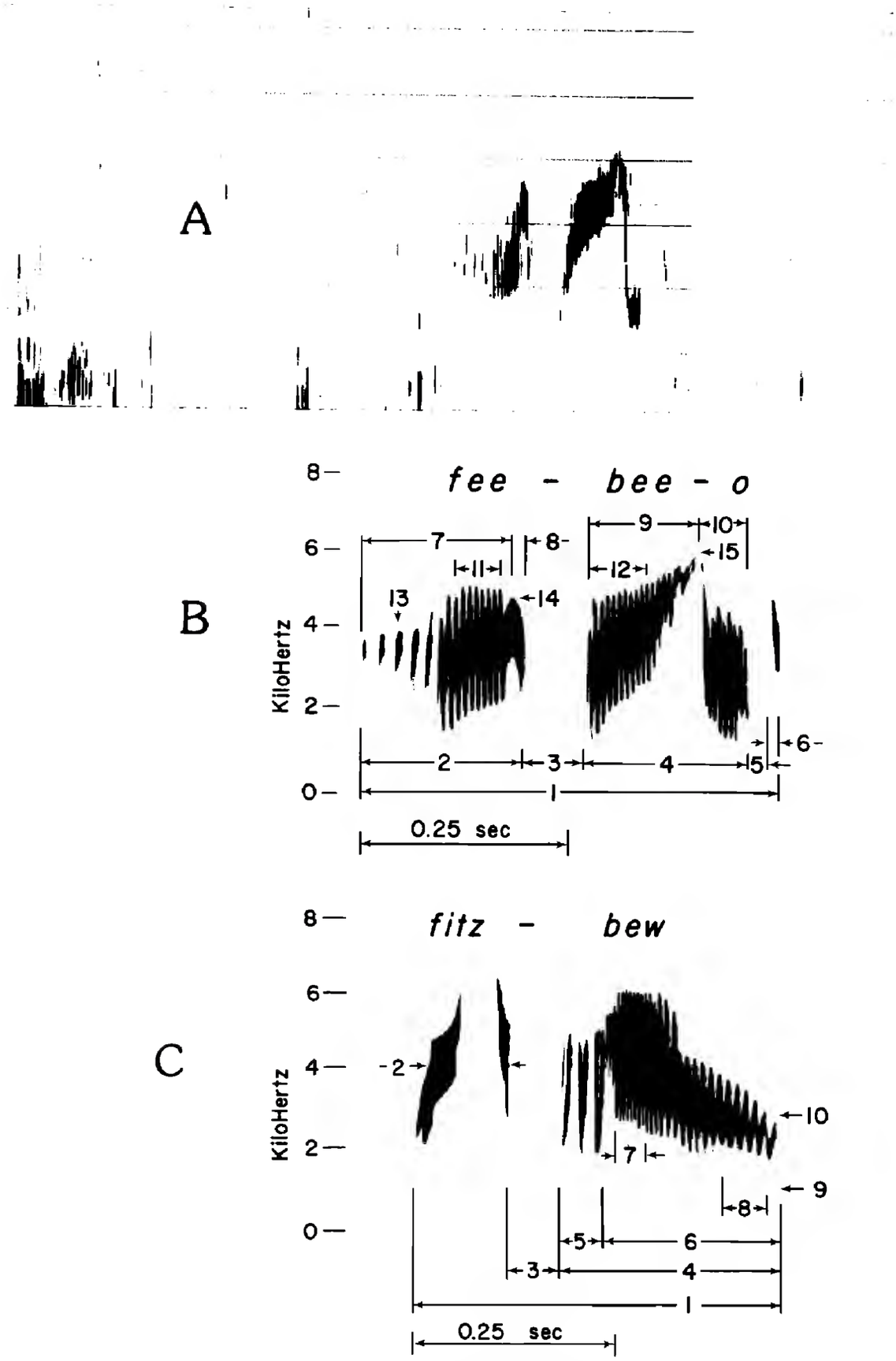

Figure 5. (A) Sonogram of California's first Alder Flycatcher (185-1991), recorded on the South Fork Kern River Preserve, Kern Co., 11 July 1991. Prepared by Marlene Zuk from a recording by Mary Whitfield. (B) Sonogram of an Alder Flycatcher from Kroodsma (1984). (C) Sonogram of a Willow Flycatcher from Kroodsma (1984).

GREATER PEWEE *Contopus pertinax* (28). Single individuals in Huntington Beach, ORA, 11 Sep 1991 (BED; 201-1991) and at Newport Beach, ORA, 14 Sep 1991 (BED; DRW; 202-1991) arrived earlier than any previous fall record of this species, as none had been found earlier than 26 September (1982; Montaña de Oro SP, SLO; Morlan 1985). One returned for its fifth winter to the San Diego Zoo, SD, 7 Nov 1991–29 Mar 1992 (DH, GMcC; 63-1992); this bird was accepted as the same one present here 20 Feb–30 Mar 1988, 6 Dec 1988–15 Feb 1989 (Pyle and McCaskie 1992), and 16 Dec 1989–1 Mar 1990 (Patten and Erickson 1994). A different bird was nearby in Balboa Park, SD, 14 Dec 1991 through "the end of February" 1992 (GMcC; 107-1992).

ALDER FLYCATCHER *Empidonax alnorum* (1). A singing male at the South Fork Kern River Preserve, KER, 11 Jul 1991 (Figure 5; SAL, MW§; 185-1991) provided the first acceptable record for California; this bird may have been present since 9 July. Sonograms prepared from the tape recording matched well published Alder Flycatcher sonograms appearing in Stein (1963), Zink and Fall (1981), and especially Kroodsma (1984), and differed from sonograms of various Willow Flycatcher (*E. traillii*) song types included in those same papers. Given the extreme difficulty in morphological separation of Alder and Willow flycatchers (Stein 1963, Hussell 1990, Seutin 1991), some members expressed reservations about the acceptability of this record. Indeed, the subspecies of the Willow Flycatcher are morphologically more different from one another than the Willow is from the Alder (Browning 1993); nevertheless, the tape-recorded song, typical-looking sonograms, and endorsement of the record by Donald E. Kroodsma led to the addition of this species to the California list.

Figure 6. Immature Sprague's Pipit (39-1992) in the Sepulveda Basin, Los Angeles Co., 20 October 1991.

Photo by Lawrence Sansone

Figure 7. Yellow-throated Vireo (209-1991) netted at Mojave Narrows Regional Park, San Bernardino Co., 22 September 1991.

Photo by Stephen J. Myers

Figure 8. California's first, and North America's fourth, Little Bunting (145-1991), photographed on Pt. Loma, San Diego Co., 23 October 1991.

Photo by Sue Yee

Alder Flycatchers apparently west of their normal migratory routes have been recorded about ten times in Colorado (Andrews and Righter 1992) and once (28 May 1972 at Bowdoin NWR) in Montana (Skaar et al. 1985). Despite Larrison's (1981) claims, this species is not a regular migrant along the Washington/Idaho border, as it is unrecorded in either state (DeSante and Pyle 1986). Farther west, a singing Alder Flycatcher was reported in southwestern British Columbia 17 June 1984, and another was reported from the Vancouver area in 1981 (*Am. Birds* 38:1055). There are at least two reports of singing birds at Malheur NWR, Oregon, that have been accepted as Alder Flycatchers by the Oregon Bird Records Committee (Schmidt 1989), although controversy surrounds these reports (Gilligan et al. 1994, Summers 1994) and the Alder Flycatcher will likely be deleted from the Oregon state list (Crabtree 1995). There is a tentative report of this species from the Springerville area of east-central Arizona 19 May 1984 (*Am. Birds* 38:943). The California record represents the southwesternmost record of a species that, given its breeding range and other extralimital records, may be a scarce but regular vagrant to the state. Until identification criteria are better understood, determining the true status of the Alder Flycatcher in California remains a significant challenge.

DUSKY-CAPPED FLYCATCHER *Myiarchus tuberculifer* (18). A silent individual was at Natural Bridges SP, SCZ, 1–4 Dec 1990 (SA; 60-1992). Calling birds were in El Granada, SM, 25–26 Nov 1991 (BSa; CDB§, RST; 22-1992) and Santa Ana, ORA, 12 Dec 1991–4 Apr 1992 (BED, JLD, MTH†, CAM†, GMcC, MAP, SBT†; 3-1992). These three records fit the well-established late fall/winter pattern of vagrancy shown in past records: all Dusky-capped Flycatchers have occurred between early November and early March, with a few wintering individuals staying as late as mid-May.

GREAT CRESTED FLYCATCHER *Myiarchus crinitus* (35). One at Mojave Narrows Regional Park, SBE, 6–7 Oct 1991 (SJM; BED, MAP†; 137-1991) provided only the third acceptable inland record for the state, following a specimen from Harper Dry L., SBE, 4 Sep 1988 and one photographed at Galileo Hill Park, KER, 23–27 Sep 1989 (Patten and Erickson 1994).

SULPHUR-BELLIED FLYCATCHER *Myiodynastes luteiventris* (8). One at Huntington Beach, ORA, 13 Sep 1991 (BED; 203-1991) was a county first, and one in San Pedro, LA, 20 Oct 1991 (EM; 187-1991) was the second for that county. All California records are from the immediate coast in September and October, with these two records establishing the early and late dates.

THICK-BILLED KINGBIRD *Tyrannus crassirostris* (10). An adult was in Seal Beach, ORA, 29 Oct 1991–14 Mar 1992 (TLW; BED, JLD†, JRG†, KLG, CAM†, GMcC, JEP, DRW; 204-1991). One near Peters Canyon, Tustin, ORA, 8 Dec 1991–*25 Jan 1992* returned for its 10th winter (BED, JLD, BHu, GMcC, JW, MW; 68-1992). A first-winter male at Lone Pine, INY, 24 Dec 1991–1 Apr 1992 (MS; JHe†, TH, GMcC, MAP; 92-1992) survived night-time temperatures to –8° C (18° F), apparently by eating bees and roosting near an orchid greenhouse. A photograph of this hardy bird, a county first, was published in *Am. Birds* 46:316.

SCISSOR-TAILED FLYCATCHER *Tyrannus forficatus* (72). One was near the San Jacinto Wildlife Area, RIV, 7 Jul 1991 (CB, SGM; 72-1992). A probable immature male was at Furnace Creek Ranch, Death Valley NP, INY, 21–22 Sep 1991 (MAP; KAR; 116-1991), and probable adult males were at San Joaquin Marsh, ORA, 14 Oct–12 Nov 1991 (BED, JRG†, SGM, DRW; 205-1991) and in Salinas, MTY, 25 Oct–2 Nov 1991 (MMR, DR, LT, SBT†, BJW†; 179-1991).

BLUE JAY *Cyanocitta cristata* (9). One collected on the campus of California State University, Chico, BUT, 24 Apr 1950 (#CSUC 921; 78-1990) was the first for

California (McCaskie 1970). This record met with some resistance because of the poor condition of the specimen (interpreted initially as potential evidence of captivity), the date (most accepted California records fall between mid-October and early March), and the record's well predating the late-1970s "invasion" of Blue Jays into the Pacific Northwest. Members Bailey and Garrett assured the Committee that the specimen's condition was consistent with shot and post-mortem insect damage. Furthermore, a Blue Jay that wintered in Mill Creek Canyon in 1963/1964 remained until 20 April, so the 24 April date was not considered unreasonable. In the end, the bird's preceding the "invasion," which involved relatively few individuals (Roberson 1980), was not enough to sway the majority of the Committee to question this bird's natural occurrence. Following circulation, Kenneth C. Parkes examined this specimen to determine the subspecies. It proved to be a first-winter *C. c. bromia*, the race occurring in northwestern and north-central North America, and the expected race in California, lending credence to the conclusion that this bird occurred in California naturally.

SEDGE WREN *Cistothorus platensis* (4). The first for southern California was in Huntington Beach, ORA, 15–17 Oct 1991 (JEP; NBB, RCa, BED, RAE, KLG, MTH, GMcC, BO, MAP, DRW; 143-1991). Three of the four records fall between mid-October and early November; the other was of a bird singing on territory in July.

VEERY *Catharus fuscescens* (8). One at Galileo Hill Park, KER, 19–24 Sep 1991 (RAE; MOC, RCa, BED, JLD†, SEF†, MTH†, GMcC, MAP, DR; 118-1991) was the fourth for southern California; a photograph was published in *Am. Birds* 46:150. After stunning itself on a window 19 September, the bird was briefly held by Erickson and Daniels but escaped, losing some of its rectrices (#LACM 108378). Most Committee members felt the bird resembled the duller western subspecies *C. f. salicicolus*; Phillips (1991) recognized five subspecies, not just *salicicolus* and nominate *fuscescens*.

GRAY CATBIRD *Dumetella carolinensis* (61). One in Lodi, SJ, 1–9 Jan 1954 (VRJ; 108-1990), mentioned by Johnson (1964), is the earliest the Committee has accepted for California, although an 1884 specimen (Townsend 1885) from SE Farallon I. is currently under review. One was banded and measured on SE Farallon I., SF, 23 Jun 1991 (JR; 150-1991), a pile of Gray Catbird feathers [off of which a Sharp-shinned Hawk (*Accipiter striatus*) was flushed] was found there 1 Oct 1991 (PP, #CAS 84896; 151-1991), and an immature, probably a male, was banded and measured there 22 Oct–2 Nov 1991 (DAS†; PP; 9-1992). Single birds were at Malibu Lagoon, LA, 5–8 Oct 1991 (JLB, NBB, MH†; 194-1991), Pt. Reyes NS (Mendoza), MRN, 17 Oct 1991 (DGY; 80-1992), Nipton, SBE, 18 Oct 1991 (RLM; 57-1992), and Scotty's Castle, Death Valley NP, INY, 3 Nov 1991 (RFC; 176-1991). One found dead at Furnace Creek Ranch, Death Valley NP, INY, 17 Nov 1991 (#SDNHM 47870; 2-1992) struck a window at the visitor center. The skeleton and certain diagnostic rectrices, primaries, crissum, and crown feathers were preserved from the partially decomposed corpse, which was recovered 23 Nov 1991 after being left for six days lying at the base of the window!

YELLOW WAGTAIL *Motacilla flava* (9). An immature was seen and heard on SE Farallon I., SF, 21 Sep 1991 (PP; 152-1991). All previous California records are for between 4 and 19 September, so this record only slightly expands that window.

*RED-THROATED PIPIT *Anthus cervinus* (102). The fall of 1991 provided the most spectacular numbers of this species in recorded history, as perhaps hundreds of individuals passed through the State. In part as a result of this incursion, the CBRC removed this species from the Review List, reviewing records only through 1991.

Many records involve small flocks, but only eight individuals have been found inland, with six of these occurring during the flight of 1991: Kern County's first were

at China L. NWC, KER, 20 Sep 1991 (MTH; 206-1991) and California City, KER, 22 Sep 1991 (MTH; MOC, GMcC; 125-1991). Single birds at Furnace Creek Ranch, Death Valley NP, INY, 21 Sep 1991 (MAP; KAR; 115-1991), 4–5 Oct 1991 (JLD†, GMcC, MAP†; 133-1991), and 11–24 Oct 1991 (MAP; TH†, GMcC; 140-1991), and at nearby Cow Creek, Death Valley NP, INY, 23 Sep 1991 (JLD†; GMcC; 127-1991), rounded out the inland records. Single Red-throated Pipits at Furnace Creek Ranch 5 Oct 1985 (Roberson 1993) and 19–20 Sep 1987 (Pyle and McCaskie 1992) were the only ones previously found inland.

Single individuals were at Pt. Reyes NS, MRN, 20 Sep 1991 (JLD; 69-1992) and 3 Oct 1991 (JM; 221-1991). Also on Pt. Reyes, up to eight were seen between 6 and 14 Oct at "Drake's Corner" (SFB, CDB§, BDP, JM, SWM, RS, SBT; 144-1991). Six were at Bolinas, MRN, 29–30 Sep 1991 (RA, GHF, KHa, JM; 222-1991). One bird was found on SE Farallon I., SF, 21–22 Sep 1991 (PP†; 153A-1991); a second bird joined it on 22 Sep (PP; 153B-1991). Singles were there 26 Sep 1991 (PP; 154-1991) and 30 Sep 1991 (PP; 155-1991), up to two were there 10–12 Oct 1991 (JCS; DAS; 7-1992), two were there 17 Oct 1991 (DAS; 11-1992), and up to two were there 21–22 Oct 1991 (DAS; 12-1992). Two at Hayward Regional Shoreline, ALA, 22–24 Sep 1991 (RJR; JM; 220-1991) provided a first county record, as did single birds at Coyote Creek Riparian Station, SCL, 16–18 Oct 1991 (SBT; 148-1991) and at Pigeon Pt., SM, 29 Sep–3 Oct 1991 (RST; BS; 21-1992) was a county first. Up to four were at Moss Landing, MTY, 4–20 Oct 1991 (PJM, DR, SBT; 178-1991); *Am. Birds* 46:146 stated that up to eight birds were present, but the Committee agreed that the documentation did not support acceptance of more than four. One was at the Salinas Sewage Ponds, MTY, 7 Oct 1991 (BHG; 25-1992).

One was near Santa Maria, SBA, 20–26 Oct 1991 (KH; 223-1991). One in Goleta, SBA, 6 Oct 1991 (CDB; 233-1991) was followed by another there 27–28 Oct 1991 (RJ, PEL; 224-1991). One was near Oxnard, VEN, 26 Oct 1991 (FH; 226-1991). An immature was in Harbor City, LA, 28 Sep 1991 (MH†; 37-1992); a color photograph of this bird appeared in *Am. Birds* 46:166. Two were together at Sepulveda Basin, LA, 16–20 Oct 1991 (RB, BED; 207-1991). Relatively large numbers were in the Tijuana R. Valley, SD, with a minimum of 12 near Hollister Ave. 6–16 Oct 1991 (JLD, GMcC; 173A-1991) and a minimum of 15 at the Dairymart Road sod fields 18 Oct–11 Nov 1991 (JLD, GMcC; 173B-1991). These flocks are the largest recorded in California, barely surpassing the flocks of 10–12 located in this same valley during the falls of 1964, 1966, and 1967 (McCaskie 1966, Dunn 1988).

SPRAGUE'S PIPIT *Anthus spragueii* (22). An immature was in the Sepulveda Basin, LA, 20 Oct 1991 (Figure 6; LS†; 39-1992). Slightly over half of the California records are of coastal vagrants, such as this one, between late September and mid-November.

YELLOW-THROATED VIREO *Vireo flavifrons* (40). One was banded and measured at Mojave Narrows Regional Park, SBE, 22 Sep 1991 (Figure 7; SJM†; 209-1991), giving California only its third inland fall record; the others were at Mono L., MNO, 26 Aug 1987 (Pyle and McCaskie 1992) and at Panamint Springs, INY, 13–14 Oct 1990 (Heindel and Garrett 1995).

PHILADELPHIA VIREO *Vireo philadelphicus* (83). Single birds at Stinson Beach, MRN, 9 Oct 1991 (KHa; 61-1993) and at Bolinas Lagoon, MRN, 25–27 Nov 1991 (DLR; 191-1991) fit within the established pattern of fall vagrancy in coastal California (76% of accepted records).

YELLOW-GREEN VIREO *Vireo flavoviridis* (31). One was in Costa Mesa, ORA, 18 Oct 1990 (JEP; JRG; 40-1991), one was seen briefly on Pt. Loma, SD, 29 Sep

1991 (REW; 41-1992), and one was banded and measured at Palomarin, MRN, 11 Oct 1991 (DLR†); a photograph of the last appeared in *Am. Birds* 46:146. All but one of the accepted state records have been from the immediate coast from 8 September to 30 October; the exception was of one collected at Harper Dry L., SBE, 2 Oct 1988 (Patten and Erickson 1994).

GOLDEN-WINGED WARBLER *Vermivora chrysoptera* (44). A male was in Sunset Heights Park, SF, 21 Sep 1991 (SFB; HG, JM, SWM, SBT; 121-1991). Fall records for California slightly exceed those for spring.

YELLOW-THROATED WARBLER *Dendroica dominica* (63). One showing the characters of the nominate subspecies remained at Pt. Reyes NS (Mendoza), MRN, 10–16 Sep 1991 (FGB; GHF, LL, JMcC†, JM, SWM, BDP, RS, LT, SBT; 119-1991). Although we have now had several reports (e.g., Craig 1972), there are still no California specimens of yellow-lored, large-billed birds, so the weakly differentiated (and unlikely to occur), *D. d. stoddardi* cannot be eliminated. More expected was one apparent *D. d. albilora* at California City, KER, 22–24 Sep 1991 (JLD, MTH†, GMcC; 126-1991); almost all well-studied Yellow-throated Warblers in California are white-lored.

GRACE'S WARBLER *Dendroica graciae* (27). A probable first-year female was on Pt. Loma, SD, 14 Sep 1991 (DWA; REW; 42-1992). A male returned for its second winter in Montecito, SBA, 6 Oct 1991–17 Feb 1992 (HR; PEL, CAM; 227-1991); it was present the previous winter from 23 Sep 1990 to 25 Feb 1991 (Heindel and Garrett 1995).

PINE WARBLER *Dendroica pinus* (44). Roger Higson collected a first-year female in his yard 1.5 mi. west of Westmorland, IMP, 13 Oct 1991 (#SDNHM 47864; 50-1992); this record is only the third for interior California. An immature male was on Pt. Loma, SD, 19–20 Oct 1991 (RAE; SGM; 195-1991). An immature female wintered at Laguna Beach, ORA, 24 Nov 1991–15 Mar 1992 (RAE; BED, JLD†, MTH†, TH†, CAM, GMcC, MAP, SBT†; 196-1991), and another immature female was in Santa Barbara, SBA, 12–16 Dec 1991 (PEL; 88-1992). An apparent immature male was in Goleta, SBA, 26 Dec 1991–16 Feb 1992 (SEF; DD†, JAJ, PEL, CAM; 89-1992). As noted by Patten and Erickson (1994), the rate of California records continues to rise.

*PROTHONOTARY WARBLER *Protonotaria citrea* (94). One was on Pt. Loma, SD, 10 Oct 1980 (DPa; 232-1988). Records of this species after 1989 are no longer reviewed by the CBRC.

WORM-EATING WARBLER *Helmitheros vermivorus* (60). Single individuals were in Redondo Beach, LA, 28 Sep–10 Oct 1991 (MH†, DLM; 45-1992) and on Pt. Loma, SD, 11 Oct 1991 (PAG; 44-1992).

*KENTUCKY WARBLER *Oporornis formosus* (62). One of unknown sex was in Lee Vining, MNO, 27–28 May 1991 (MF; 94-1992), a male was in Morongo Valley, SBE, 25 Aug–2 Sep 1991 (MAP; DLD, GMcC; 113-1991), and a female was on SE Farallon I., SF, 15 Sep 1991 (PP; 158-1991). Records of the species after 1994 are no longer reviewed by the CBRC.

CONNECTICUT WARBLER *Oporornis agilis* (65). SE Farallon I., SF, is *the* site for this species in California, with 52% of the accepted state records. Three more were there in September 1991: an immature male 7 Sep (PP†; 159-1991), a probable immature female 14–15 Sep (PP; 160-1991), and one of unknown age and sex 14 Sep 1991 (PP; 161-1991). The first of these was measured and banded. One banded, measured, and photographed at Coyote Creek Riparian Station, SCL, 25 Sep 1991 (RCo, MR†; SBT; 236-1991) was the only one found on the mainland this same year.

An immature at Pt. Reyes NS (fish docks), MRN, 26 Sep 1983 (SNGH; 80-1993) was considered the same as an immature at the nearby lighthouse that same day (74-1983; Roberson 1986). Given that numerous distinctively plumaged vagrants over the years have been seen at the point then later at the fish docks (R. Stallcup, *fide* P. Pyle), the Committee felt it most prudent to treat these birds as the same.

MOURNING WARBLER *Oporornis philadelphia* (80). Single birds were at Palomarin, MRN, 10 Sep 1991 (†DLR; 82-1992), in Goleta, SBA, 13 Sep 1991 (SEF; PEL; 228-1991), and at Pt. Reyes NS, MRN, 14–16 Sep 1991 (DS; JM, SWM, BDP, RS; 120-1991); the first of these, an immature female, was banded, measured, and photographed in hand. Four were on SE Farallon I., SF, during fall 1991: an immature, apparently a male, 7 Sep (PP; 162-1991), an immature female banded and measured 15–16 Sep (PP†; 163-1991), an immature, probably a female, 20–21 Sep (PP; 164-1991), and an immature banded and measured 6 Oct (JCS†; 6-1992).

SCARLET TANAGER *Piranga olivacea* (81). A singing male was in Hayward, ALA, 30 Jun 1991 (D&DH†; 167-1991). A first-year male was at Stovepipe Wells, INY, 11 Oct 1991 (BED; GMcC, MAP†; 141-1991). Two females were on Pt. Loma, SD: one remained from 20 to 26 Oct 1991 (SGM; JLD, GMcC, BJR†; 172-1991), and the second, a probable immature, was seen on 3 Nov 1991 (REW; 46-1992). A first-year male was banded and measured on SE Farallon I., SF, 22–24 Oct 1991 (DAS†; 16-1992), and another first-year male was along the Los Angeles R., Glendale, LA, 15 Nov 1991 (KLG; 18-1992). Nearly two-thirds of the accepted California records are from the coastal slope in fall, but there are only 15 records from northern California.

PAINTED BUNTING *Passerina ciris* (38). A first-year female was banded and measured on SE Farallon I., SF, 15 Sep 1991 (PP†; 165-1991), and another first-year bird was at Furnace Creek Ranch, Death Valley NP, INY, 21 Sep 1991 (MAP; KAR; 117-1991). Given the recently described supplemental molt in this species, sexing fall vagrants can be a challenge, as immatures are similar regardless of sex (Thompson 1992). Nevertheless, both of these birds had gray heads, indicating immaturity.

BAIRD'S SPARROW *Ammodramus bairdii* (3). A juvenile was on SE Farallon I., SF, 7 Sep 1991 (PP†; 166-1991); although the photographs were not by themselves diagnostic, the excellent written details led to unanimous acceptance of this record. Previous records are from SE Farallon I. 28 Sep 1969 (Roberson 1986) and Pt. Loma, SD, 5–10 Oct 1981 (Binford 1985). See Pyle and Sibley (1992) for a brief account of the juvenal plumage of this species.

LE CONTE'S SPARROW *Ammodramus leconteii* (22). An immature female was collected at Harper Dry L., SBE, 6 Jan 1991 (#SBCM 52796; 56-1992). Single birds were at Furnace Creek Ranch, Death Valley NP, INY, 5 Oct 1991 (JLD; GMcC, MAP; 134-1991) and 12–16 Oct 1991 (MAP†; BED, TH†, GMcC; 142-1991). Most *Ammodramus* sparrows migrate after completing their postjuvenal molt and thus look similar to adults during their first fall (Pyle and Sibley 1992). As a result, the ages of the Furnace Creek birds are unknown, although the second bird was considerably brighter than the first.

SMITH'S LONGSPUR *Calcarius pictus* (2). California's second was at Pt. Reyes NS (Drake's Corner), MRN, 6–8 Oct 1991 (GHR; GHF, JM, RS, SBT; 146-1991). This bright, strongly marked bird was apparently an adult male because immature males lack the bold face pattern described on this individual. An immature male at Moss Landing, MTY, 13–18 Sep 1990 is the only other recorded in California (Patten and Erickson 1994).

Figure 9. Bronzed Common Grackle (8-1992) at Furnace Creek Ranch, Death Valley National Park, Inyo Co., 17 October 1991.

Photo by Gjon Hazard

Figure 10. California's fifth Streak-backed Oriole, and the first to have its photograph published, at the Gene Pumping Plant near Parker Dam, San Bernardino Co., December 1991.

Photo by B. J. Rose

LITTLE BUNTING *Emberiza pusilla* (1). The first of its species to be recorded in North America south of Alaska was on Pt. Loma, SD, 21–24 Oct 1991 (Figure 8; GMcC, REW†; RCa, BED, JLD, RAE, KLG, RAH, CAM, MAP, EEP, DR, BJR†, SY†; 145-1991). Excellent photographs (a color one appeared in *Am. Birds* 46:169) and descriptions documented one of the least expected species ever found in California. McCaskie (1993) provided an account and summarized other North American occurrences. See Wallace (1980), Harris et al. (1989), and Bradshaw (1991) for summaries of identification criteria.

SNOW BUNTING *Plectrophenax nivalis* (49). Five were on SE Farallon I., SF, in fall 1991: a first-year female 26–27 Oct (PP†, DAS; 13-1992), a second, brighter individual with a damaged wing 26–28 Oct (PP, DAS; 14-1992), and three more on 28 Oct (PP, DAS; 15-1992). A male was at Fort Funston, SF, 27–30 Oct 1991 (HG, LL, JM, SWM, MMR; 189-1991), and an immature male was on Pt. Reyes NS, MRN, 6–12 Nov 1991 (WEH†, GMcC, JM, MAP†; 183-1991). Two of undetermined age and sex were at Crescent City, DN, 5–6 Nov 1991 (ADB†; 64-1993).

COMMON GRACKLE *Quiscalus quiscula* (27). Single individuals were at Furnace Creek Ranch, Death Valley NP, INY, 17 Oct 1991 (Figure 9; JCS; GH†; 8-1992) and 15 Nov 1991 (JHe, TH†; 214-1991). Both birds were well photographed, with a photo of the latter appearing in *Am. Birds* 46:152. As with all previous California Common Grackles identified to subspecies, these birds looked like the western subspecies *Q. q. versicolor*, the Bronzed Grackle.

STREAK-BACKED ORIOLE *Icterus pustulatus* (5). An immature male or adult female was at the Gene Pumping Plant near Parker Dam, SBE, 9–18 Dec 1991 (Figure 10; JCS; GMcC, MAP, BJR†; 211-1991). Previous accepted records are from L. Murray, SD, 1 May 1931 (Huey 1931, Dunn 1988), the Tijuana R. Valley, SD, 22 Sep 1962 (Roberson 1993), Furnace Creek Ranch, Death Valley NP, INY, 6 Nov–21 Dec 1977 (Luther et al. 1979), and La Jolla, SD, 10 Dec 1984–29 Apr 1985 (Dunn 1988). This species is occurring with increasing frequency in southeastern Arizona and has recently bred along the San Pedro R. near Dudleyville (Corman and Monson 1995).

BRAMBLING *Fringilla montifringilla* (5). One was at Ferndale Bottoms, HUM, 29 Dec 1991–28 Feb 1992 (FJB, TL; BBA, SWH, GGK, GSL, LPL, MHM, DLR, JR; 32-1992). All California records have been from late November to mid-March. Previous occurrences were at Crescent City, DN, 5 Feb–24 Mar 1984 (Roberson 1986), Arcata, HUM, 20 Nov 1985, Chico, BUT, 11–19 Feb 1986 (Bevier 1990), and Santa Cruz, SCZ, 15 Dec 1990–16 Feb 1991 (Heindel and Garrett 1995).

COMMON REDPOLL *Carduelis flammea* (5). One, probably a female, was at Tule L. NWR, SIS, 23–25 Nov 1991 (KTS; 190-1991). Aside from influxes to northeastern California during the winters of 1899/1900 (Willard 1902, Grinnell and Miller 1944, Roberson 1986) and 1985/1986 (Bevier 1990), the only other occurrence for California was of an unseasonal bird taken at Manila, HUM, 22 May 1969 (Roberson 1993).

SUPPLEMENTAL LIST

As discussed by Patten and Erickson (1994), the Committee has adopted a Supplemental List for species supported by records for which natural occurrence is uncertain. This list was designed for species for which evidence for a determination regarding human-aided passage vs. natural occurrence is insufficient. Records of species not accepted as "natural

occurrence questionable" but not yet on the main list of California birds are brought to an annual meeting for discussion; a simple majority vote will place the species on the Supplemental List. Placement of the Swallow-tailed Gull (*Creagrus furcatus*) and Oriental Greenfinch (*Carduelis sinica*) on the Supplemental List was discussed by Heindel and Garrett (1995) and Patten and Erickson (1994), respectively. As reported by Small (1994), the Committee placed the Gray Silky-Flycatcher (*Ptilogonys cinereus*) on the Supplemental List in 1993 but removed it again in 1995 because the possibility of escaped birds was felt to be too high. Other recent Supplemental List additions, and the records that support those additions, follow.

FALCATED TEAL *Anas falcata*. A male was at Upper Newport Bay, ORA, 2 Jan–21 Feb 1969 (128-1986; Roberson 1993). Note that the male reported at San Francisco, SF, 5 Apr–21 May 1953 (458-1986; Roberson 1993) was not accepted because of questionable identification and is thus not eligible for the Supplemental List.

CRESTED CARACARA *Polyborus plancus*. An adult was photographed at Mono Lake, MNO, 13 Sep–16 Oct 1987 (267-1987; Roberson 1993). Additional records of the Crested Caracara in California, including those for the Shasta Valley, SHA, and Ft. Dick, DN, discussed by Roberson (1993), were not considered among those supporting the species' placement on the Supplemental List.

Additional species considered but not placed on the Supplemental List were the Jackass Penguin (*Spheniscus demersus*), Bar-headed Goose (*Anser indicus*), Barnacle Goose (*Branta leucopsis*), Ruddy Shelduck (*Tadorna ferruginea*), Spectacled Eider (*Somateria fischeri*), Kittlitz's Plover (*Charadrius pecuarius*), Purplish-backed Jay (*Cyanocorax beecheyi*), Yellow Grosbeak (*Pheucticus chrysopeplus*), White-collared Seedeater (*Sporophila torqueola*), and Eurasian Tree Sparrow (*Passer montanus*).

RECORDS NOT ACCEPTED, identification questionable

ARCTIC LOON *Gavia arctica*. A loon distantly seen near the mouth of Bolinas Lagoon, MRN, 28 May 1992 (143-1992) was identified solely by its white flank patches; most Committee members were unwilling to accept such a record without additional detail on structure, size, presence or absence of chin and vent straps, and nape coloration. See Records Accepted for more information about this species.

YELLOW-BILLED LOON *Gavia adamsii*. One was reported at Pt. Richmond, CC, 23 or 24 Mar 1991 (217-1991); documentation was not sufficient to eliminate the Common Loon (*G. immer*).

TOWNSEND'S SHEARWATER *Puffinus auricularis*. One was reported 2–3 mi. offshore from Montaña de Oro SP, SLO, 11 Aug 1991 (114-1991). The Committee felt the sighting was too brief, and some marks were incorrect for Townsend's. Observers are cautioned to consider variation in the Black-vented Shearwater (*P. opisthomelas*), a small percentage of which show white flank patches (Howell et al. 1994). Furthermore, the CBRC is now reviewing a dozen records of putative Manx Shearwaters (*P. puffinus*), a species that also shows white flank patches (Howell et al. 1994); indeed, some of these apparent Manx Shearwaters were initially identified as Townsend's Shearwaters.

BAND-RUMPED STORM-PETREL *Oceanodroma castro*. One was reported 160 nmi. SW of San Nicolas I., VEN (30° 59.8' N, 121° 16.9' W), 30 Sep 1991

RECORDS NOT ACCEPTED, identification questionable, Cont.

(103-1993; *Am. Birds* 46:148). Although the observer is experienced with seabirds, the documentation was scant for so contentious an identification, as proposed field criteria for separating this species from the very similar Leach's Storm-Petrel (*O. leucorhoa*) remain poorly understood. There is only one accepted record for California (McCaskie 1990), but that record is currently being reassessed by the Committee (Heindel and Garrett 1995).

BROWN BOOBY *Sula leucogaster*. A booby observed from a boat returning to Los Angeles, LA, from Santa Barbara I., SBA, 15 Sep 1990 (1-1993) was not adequately described to be identified to species.

TRICOLORED HERON *Egretta tricolor*. An adult reported from Finney L., IMP, 26 May 1991 (98-1991) was said to have both a red eye and a yellow bill, an unlikely combination, as Tricolored Herons have red irides only when in heightened breeding condition, when their bills are deep blue.

TRUMPETER SWAN *Cygnus buccinator*. Adults were reported at Goose L., MOD, 28 Apr 1991 (20-1992) and Tule L. NWR, MOD, 24 Dec 1991 (218-1992). Field identification of swans, even the adult Trumpeter Swan versus Whistling Swan (*C. columbianus columbianus*), remains one of the most underrated and intractable problems in North America; see Patten and Heindel (1994) for a treatment of this issue.

EMPEROR GOOSE *Chen canagica*. A report of two at Limantour Estero, Pt. Reyes NS, MRN, 12–29 Dec 1968 (94-1989) lacked enough documentation for a minority of the Committee. These birds were said to have been photographed; if anyone can supply photographs, the Committee would be eager to reconsider this record. An immature goose at Tule L., SIS, 21 Oct–11 Nov 1991 (198-1991) exhibited white undertail coverts, depicted in a drawing and in written field notes. This feature lies outside the known variation of the Emperor Goose (Palmer 1976).

TUFTED DUCK *Aythya fuligula*. A male *Aythya* at the mouth of the San Luis Rey River, Oceanside, SD, 16 Feb–"end of period" (= 29 Feb; 129-1992; *Am. Birds* 46:314) 1992 had a finely barred mantle and a short tuft, so it was considered to be a hybrid Tufted Duck × scaup. A reported male at Hayward Regional Shoreline, ALA, 4 Jul–15 Aug 1990 (193-1990; *Am. Birds* 46:144) was more problematic. Much of the description of the bird suggested that the identification was correct, but the gray wash to the flanks, short wing stripe, and consistently short tuft during the bird's six-week stay led the majority of Committee members to question whether this bird was a pure Tufted Duck. See Sibley (1994) for more information about hybrid Tufted Ducks.

Documentation supporting the report of a male at Richardson's Bay, MRN, 6 Mar 1990 (217-1990) was only the secondhand comment that the observer "said it had a long tuft." This bird was considered acceptable by a minority of the Committee, who felt it to represent a returning individual; the CBRC had previously accepted a male at this locality 19 Jan 1987 (155-1987; Langham 1991).

MISSISSIPPI KITE *Ictinia mississippiensis*. One was reported at Shoreline Park, Mt. View, SCL, 12 May 1991 (83-1991). Details were not sufficient to rule out the Northern Harrier (*Circus cyaneus*). A report of one at Pinnacles NM, SBT, 12 May 1991 (82-1991) was only narrowly rejected on its fourth circulation; concerns centered around the incomplete description of the tail and wing pattern. These records, both published in *Am. Birds* 45:492, raised additional concerns about the early date and, because of the season, the coastal locations (most accepted spring are from late May to early June from the interior).

RECORDS NOT ACCEPTED, identification questionable, Cont.

COMMON BLACK-HAWK *Buteogallus anthracinus*. One was reported at L. Evans, Buena Vista Recreation Area, KER, in "April or May" 1987 (67-1993). This report, the third in the past five years, highlights the need for thorough documentation supporting reports of this species and for a clear understanding of identification criteria. An adult at Thousand Palms Oasis, RIV, 13 April 1985 (Daniels et al. 1989) remains the only one accepted for California.

ZONE-TAILED HAWK *Buteo albonotatus*. The description of a *Buteo* reported at Salton Sea NWR, IMP, 5 Nov 1991 (35-1992) did not eliminate other dark raptors. One reported by an excellent observer 11 km WSW of Brawley, IMP, 31 Dec 1991 (125-1992; *Am. Birds* 46:315) was acknowledged by all members to be likely correct but was not accepted because of ambiguous details (resulting from the distant observation) that did not clearly eliminate a dark-morph Ferruginous Hawk (*B. regalis*). There remain no accepted winter records for the interior.

YELLOW RAIL *Coturnicops noveboracensis*. A rail flushed from a pond on the Samoa Peninsula, HUM, 10 Feb 1991 (57-1991) was described as pale yellow or sandy overall, too pale for a Yellow Rail. White patches were seen on the secondaries, but the observers themselves questioned whether light conditions could have contributed to this impression.

SPOTTED REDSHANK *Tringa erythropus*. One was tentatively identified as it flew over Bolinas Lagoon, MRN, 14 Sep 1991 (131-1991). Field identification rested on the yellowlegs-like shape and plover-like call-note, but observed details were not sufficient for anyone on the Committee to accept so rare a species.

TEREK SANDPIPER *Xenus cinereus*. An intriguing report of one along the Santa Ynez R. in Lompoc, SBA, 10 Oct 1991 (149-1991) was published in *Am. Birds* (46:149). Bobbing behavior and a long upturned bill were described, but the bird's size and plumage pattern were unclear. The bird's wading in a shallow pool rather than dashing about on bare ground led to further concerns. There remains but one record of this species for California, of an adult studied and photographed by many at Carmel SB, MTY, 28 Aug–23 Sep 1988 (Wilson and Harriman 1989).

BAR-TAILED GODWIT *Limosa lapponica*. A godwit at Bolinas Lagoon, MRN, 28 Aug 1991 (184-1991; *Am. Birds* 46:144) was felt to be too distant from the observer for a bleached Marbled Godwit (*L. fedoa*) to be eliminated.

RUFOUS-NECKED STINT *Calidris ruficollis*. A juvenile was reported at Princeton Marsh, SM, 23 Sep 1991 (130-1991). The documentation was not detailed enough to eliminate a short-billed juvenile male Western Sandpiper (*C. mauri*), a bright juvenile Semipalmated Sandpiper (*C. pusilla*), or a juvenile Little Stint (*C. minuta*). Observers are urged to document potential Palearctic stints with extreme caution and exhaustive detail, and to be well versed in the variation possible in the Western and Semipalmated sandpipers and the extreme similarity of Rufous-necked and Little stints. See Jonsson and Grant (1984), Hayman et al. (1986), Veit and Jonsson (1987), and Paulson (1993) for more information.

LONG-TOED STINT *Calidris subminuta*. One reported near Palmdale, LA, 21–24 Sep 1991 (138-1991) proved to be a Least Sandpiper (*C. minutilla*) upon examination of a videotape and photographs. A juvenile at Salinas, MTY, 29 Aug–2 Sep 1988 remains the sole Long-toed Stint accepted for California (Patten and Daniels 1991).

THICK-BILLED MURRE *Uria lomvia*. The description of a murre at Monterey, MTY, 24 Nov 1991 (218-1991) was felt by most Committee members to better fit a basic-plumaged Common Murre (*U. aalge*).

RECORDS NOT ACCEPTED, identification questionable, Cont.

RUDDY GROUND-DOVE *Columbina talpacoti*. A female reported at the Wister Unit of the Imperial Wildlife Area, south end of the Salton Sea, IMP, 20 Apr 1991 (95-1991) was at a location where the Common Ground-Dove (*C. passerina*) is common; furthermore, the bird was not convincingly described for such a date, as fall and winter records predominate.

BROAD-BILLED HUMMINGBIRD *Cynanthus latirostris*. A male hummingbird near Imperial Beach, SD, 4 May 1991 (94-1991) was published as this species (*Am. Birds* 46:496). The description sounded interesting, but the lack of white undertail coverts eliminated the Broad-billed Hummingbird.

EASTERN WOOD-PEWEE *Contopus virens*. One was reported in Rancho San Carlos, MTY, 5 May 1991 (116-1992). The Committee felt that the described calls did not eliminate the Western Wood-Pewee (*C. sordidulus*). There are but two accepted California records, of one banded, measured, and photographed in hand on SE Farallon I., SF, 15 Jun 1975 (Luther 1980) and a singing male photographed and tape-recorded at San Joaquin City, SJ, 18 Aug-17 Sep 1983 (Morlan 1985).

ALDER FLYCATCHER *Empidonax alnorum*. In response to a plea from Pyle and McCaskie (1992), a number of records of potential Alder Flycatchers have been recently submitted to the Committee. Of the three reported here, one at Pt. Reyes NS (lighthouse), MRN, 16 Jun 1988 (99-1993) was heard once to sing an Alder-type song but was otherwise silent. As songs were not heard repeatedly, this record was unanimously rejected by the Committee, although most members acknowledged that the bird could have been an Alder Flycatcher. The other two reports were of "Traill's" Flycatchers giving calls normally attributed only to the Alder Flycatcher: one was among breeding Willow Flycatchers along the San Luis Rey R. near L. Henshaw, SD, 12 Jun 1988 (274-1992) and one was at Pt. Reyes NS (New Willows), MRN, 9 Sep 1988 (100-1993); the former record was published in *Am. Birds* 42:1341. Both of these birds were described as looking essentially like Willow Flycatchers (*E. traillii*), but each repeatedly gave *peep* call notes. Although these calls have been considered or suggested diagnostic of the Alder by a number of authors (LeGrand 1979, Lehman 1985, Whitney and Kaufman 1986, Kaufman 1990), call-note variation within each species awaits a thorough analysis. Until such a time, the Committee will likely accept Alder Flycatcher records only if the bird is in full song. Even so, the Committee urges continued submission of suspected Alders based on calls, as the June and late-August to mid-September pattern of "peeping Traill's" noted by Pyle and McCaskie (1992) is further supported by the records rejected above. See Pyle and McCaskie (1992) for a discussion of previously rejected records of "peeping" Traill's Flycatchers in California.

GREAT CRESTED FLYCATCHER *Myiarchus crinitus*. The described call of a *Myiarchus* in Santa Barbara, SBA, 22 Sep 1990 (184-1990; *Am. Birds* 45:152) was considered atypical for the Great Crested Flycatcher by some Committee members; the described rectrix pattern and mandible coloration led to further concerns.

SCISSOR-TAILED FLYCATCHER *Tyrannus forficatus*. Single birds reported in Goleta, SBA, 30 Jun 1985 (18-1991) and at Pt. Buchon, SLO, 10 Jun 1991 (93-1991) lacked sufficient documentation, though much of the Committee felt both records were probably valid.

GRAY-CHEEKED THRUSH *Catharus minimus*. A *Catharus* at Pt. Reyes NS (lighthouse), MRN, 15 Oct 1988 (23-1989) was published (*Am. Birds* 43:164) as this species. The details submitted indicated that the bird was seen briefly (uppertail

RECORDS NOT ACCEPTED, identification questionable, Cont.

coloration was not noted, for example) and led to concerns over whether the Hermit Thrush (*C. guttatus*) was eliminated.

RED-THROATED PIPIT *Anthus cervinus*. A pipit at Cape Mendocino, HUM, 28 Sep 1980 (213-1987) was described as having brown legs and a white wing patch. One reported at Arcata Bottoms, HUM, 1 Oct 1980 (104-1989) lacked sufficient documentation. Both of these records were accepted by Harris (1991) and were published in *Am. Birds* 35:223. A heard-only fly-over at Pt. Reyes NS, MRN, 22 Sep 1990 (216-1990) was not documented enough for a minority of the Committee. Single individuals were reported at Princeton Marsh, SM, 26 Sep 1991 (81-1992) and at Half Moon Bay, SM, 29 Oct 1991 (90-1992). One at Arroyo de la Cruz, SLO, 2 Oct 1991 (232-1991; *Am. Birds* 46:151) and roughly ten at Arroyo Laguna, SLO, 2 Oct 1991 (231-1991; *Am. Birds* 46:151) were all fly-over, heard-only birds; a majority of the Committee felt these identifications to be inadequately documented, representing a more conservative stance than in the past (*cf.* Pyle and McCaskie 1992). An adult reported near Palmdale, LA, 9 Nov 1991 (38-1992) was supported by details that perhaps better fit the Asian subspecies *japonicus* of the American Pipit (*A. rubescens*); in any case, the Committee unanimously agreed that details were insufficient to support a basic-plumaged adult Red-throated Pipit at this interior location.

YELLOW-GREEN VIREO *Vireo flavoviridis*. The description of a vireo reported in La Jolla, SD, 5 Oct 1991 (40-1992; *Am. Birds* 46:151) did not eliminate a first-year Red-eyed Vireo (*Vireo olivaceus*).

YELLOW-THROATED WARBLER *Dendroica dominica*. One at the Carmel R. mouth, MTY, 21–28 Sep 1969 (93-1989) was accepted by all but two members; the minority was unwilling to accept the meager details provided for this record, which has long been considered correct (*cf.* Roberson 1985).

PINE WARBLER *Dendroica pinus*. A warbler on Pt. Loma, SD, 11 Oct 1991 (43-1992; *Am. Birds* 46:151) was reported as an adult male of this species, a plumage unrecorded in the state in fall; the bird was not adequately described for most members to break precedent. Observers need to note structure in addition to plumage details, as the shape of the Pine Warbler is quite different from that of the Bay-breasted (*D. castanea*) and Blackpoll (*D. striata*) warblers (see Patten and Erickson 1994).

PROTHONOTARY WARBLER *Protonotaria citrea*. One reported on San Nicolas I., VEN, 18–30 Aug 1988 (260-1989; *Am. Birds* 43:170) was supported by marginal details.

MOURNING WARBLER *Oporornis philadelphia*. Single birds were reported at Montaña de Oro SP, SLO, 20 Sep 1989 (18-1990; *Am. Birds* 44:164), Oceano, SLO, 3 Oct 1990 (43-1991; *Am. Birds* 45:153), Huntington Beach, ORA, 8 Oct 1990 (44-1991; *Am. Birds* 45:153), and Pt. Loma, SD, 15 Sep 1991 (208-1991). The rejection rate for this species continues to be high, with 22% of the mainland reports being considered unacceptable. Numerous in-hand records from SE Farallon I. demonstrate that this species moves through California with regularity, but sight records need to be well documented to ensure that the very similar MacGillivray's Warbler (*O. tolmiei*) and even Common Yellowthroat (*Geothlypis trichas*) are convincingly eliminated.

SCARLET TANAGER *Piranga olivacea*. A briefly described male at Tilden Park, CC, 4 Jun 1991 (29-1992; *Am. Birds* 45:1159) was not adequately documented for most members. A briefly seen tanager in Huntington Beach, ORA, 11 Nov 1991 (5-

RECORDS NOT ACCEPTED, identification questionable, Cont.

1992; *Am. Birds* 46:152) included mention of a large, pale bill, a feature typical of the Summer Tanager (*P. rubra*).

CANYON TOWHEE *Pipilo fuscus*. One reported from Anza-Borrego Desert SP, SD, 9 Feb 1992 (128-1992) would have been the first for California. This species has some potential to reach California, as it occurs west to the Mohave and Black mountains of Arizona (Monson and Phillips 1981), within 10 km of our eastern border. Zimmer (1988) prepared *the* source for identification of Canyon and California (*P. crissalis*) towhees; see Zink (1988) for information regarding systematic relationships in this towhee complex.

FIELD SPARROW *Spizella pusilla*. A sparrow at Hopland Field Station, MEN, 11 Oct 1991 (79-1992; *Am. Birds* 46:147) was reported as this species, but the fairly extensive breast streaking on this date should eliminate all *Spizellae* but the Chipping Sparrow (*S. passerina*).

SNOW BUNTING *Plectrophenax nivalis*. One seen briefly in flight at Año Nuevo State Reserve, SM, 26 Oct 1991 (23-1992; *Am. Birds* 46:147) was not adequately described.

MCKAY'S BUNTING *Plectrophenax hyperboreus*. A bird photographed coming to a feeder with House Sparrows (*Passer domesticus*) in Camarillo, VEN, 29 Dec 1991–1 Jan 1992 (223-1992) was felt by the entire Committee to be a leucistic House Sparrow.

COMMON GRACKLE *Quiscalus quiscula*. A male grackle at Mono L. Co. Park, MNO, 10 May 1989 (84-1993) was published as a Great-tailed in *Am. Birds* 43:534. Although there was some speculation that it may actually have been a Common Grackle, the Committee unanimously agreed that available documentation was not conclusive and essentially did not dispute the published identification.

RECORDS NOT ACCEPTED, natural occurrence questionable (identification accepted)

PAINTED BUNTING *Passerina ciris*. Unseasonal adult male Painted Buntings in cismontane California continue to present the Committee with problems. Single birds banded in Camarillo, VEN, 3 Jan 1989 (HEM†; 199-1989) and coming to a feeder in Santa Barbara, SBA, 3–5 Nov 1991 (PW; 229-1991; *Am. Birds* 46:152) were not accepted primarily because the probability of escapees, especially adult males, was felt to be substantially higher in urban areas. Nevertheless, the Santa Barbara bird, at least, fell within the Painted Bunting's established pattern of fall vagrancy. There are no accepted winter records. The Committee has now questioned the natural occurrence of 12 records of adult males from coastal California. Whether these birds fit a "pattern" or represent a regular flow of escapees is unknowable, although, in contrast to accepted records, which are concentrated in fall, adult males on the coast span the seasons. Females as well as males are marketed in Mexico.

EURASIAN TREE SPARROW *Passer montanus*. One was seen briefly in San Pedro, LA, 4 Jul 1991 (KLG, WLP; 90-1991). Kautesk (1986) and Weber (1987) discussed recent records in Canada and suggested scenarios, respectively, of ship-assistance and escaping from local aviculturists. Recent reports from southwestern British Columbia (*Am. Birds* 43:161 and 44:321) suggest the potential establishment of a small population in that area, from which a bird could have wandered south to San Pedro. Given the location, however, ship-assisted travel may be the most likely

RECORDS NOT ACCEPTED, natural occurrence questionable (identification accepted), Cont.

explanation for this bird's arrival in San Pedro. In any event, the Committee unanimously agreed that this species is a most unlikely candidate for natural occurrence in California, although the CBRC encourages continued submission of these sorts of records.

MISCELLANY

This new section will be an irregular feature of CBRC reports. Its purpose is to provide a forum of corrections and clarifications of published records of Review List species that were either not formally reviewed, usually because there was nothing to review (i.e., typographic errors), or were re-reviewed but the subsequent review did not alter previously published conclusions.

EMPEROR GOOSE *Chen canagica*. Because of a key-punch error, a Ross' Goose (*Chen rossii*) on the 16 December 1989 San Diego Christmas Bird Count was erroneously published as an Emperor Goose (*Am. Birds* 44:987).

YELLOW RAIL *Coturnicops noveboracensis*. A previously accepted record of this species from Pacific Grove, MTY, 2–8 Oct 1970 (WR; RS; 230-1984; Dunn 1988) was re-reviewed to encompass a 1 Nov 1970 sighting claimed to be of this same bird (Roberson 1985). The Committee unanimously agreed to continue acceptance of only 2–8 Oct 1970, and Roberson (in comments) indicated that he now believes his acceptance of the 1 Nov date was in error.

GRAY CATBIRD *Dumetella carolinensis*. A Gray Catbird photograph appearing in *Birder's World* 8(1):74, February 1994, was accompanied by a caption indicating that it was taken near Los Angeles, LA. The photograph was in fact taken at the Dry Tortugas, Florida (Brian E. Small in litt.).

PAINTED BUNTING *Passerina ciris*. As with the Emperor Goose report mentioned above, a typographic error in Heindel and Patten (1994) led to the publication of a Painted Bunting record for coastal Orange Co. The Painted Redstart (*Myioborus pictus*) was the species in question.

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NOTEWORTHY RECORDS OF BIRDS IN NORTHWESTERN BAJA CALIFORNIA, MEXICO

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Even after the contribution of Wilbur (1987) and several recent reports in *Western Birds*, the distributions of many birds in Baja California remain poorly known. Here we report observations made by us separately or together between 1975 and June 1994. We include data only for northwestern Baja California, that is, between the international border and Río del Rosario and west of the summits of the sierras Juárez and San Pedro Mártir. Almost all records are based on sight identification only, owing to the difficulty, even for Mexican citizens, in complying with current collecting regulations in Mexico.

Sites mentioned in the following accounts are plotted in Figure 1. Within each account, sites are ordered from north to south. Initials in parentheses denote the responsible observers.

SPECIES ACCOUNTS

Horned Grebe (*Podiceps auritus*). Not recorded from Baja California by Grinnell (1928), this species is still known here from only a few published records (Wilbur 1987). Our records: Bahía de San Quintín, where Horned Grebes had not yet been recorded: 3, 1 December 1986 (PU). Estero de Punta Banda: 6, 27–28 November 1987 (PU); 1, 2 February 1994 (EP). Steve N. G. Howell (pers. comm.) has also noted the species at these two sites, with a maximum of 20 in the Bahía de San Quintín, 8 December 1983. The status of this species in the Bahía de San Quintín and Estero de Punta Banda is probably similar to that on San Diego Bay: an uncommon annual winter visitor.

Pied-billed Grebe (*Podilymbus podiceps*). A "sparse resident the length of the peninsula" (Wilbur 1987), this species is scarce enough as a breeder we list our only two records. El Ciprés pond: 1 adult with a chick, 15 June 1991 (SG). A small temporary pond on the side of the highway 1 km north of Colonet: 1 adult with 5 chicks, 4 June 1994 (SG). S. N. G. Howell (pers. comm.) adds two further localities: Héroes de la Independencia (adult with chick, 14 May 1989) and Rancho San José de Meling (2 adults with 3 chicks, 11 May 1989).

Brandt's Cormorant (*Phalacrocorax penicillatus*). A rock on the northeastern side of South Isla Todos Santos: 40 nesting on 15 April 1991 (EP, EM). This species historically bred on the Islas Todos Santos (van Denburgh 1924, Howell 1912), and Everett and Anderson (1991) concluded that, except at San Martín and Los Coronados islands, its status in Baja California has probably changed little. We, however, found none on the main island, which the cormorants may have deserted because of disturbance by fishermen and, perhaps, tourists.

White-faced Ibis (*Plegadis chihi*). Wilbur (1987) considered this ibis a rare transient, listing only one record for northwestern Baja California. Our findings indicate it

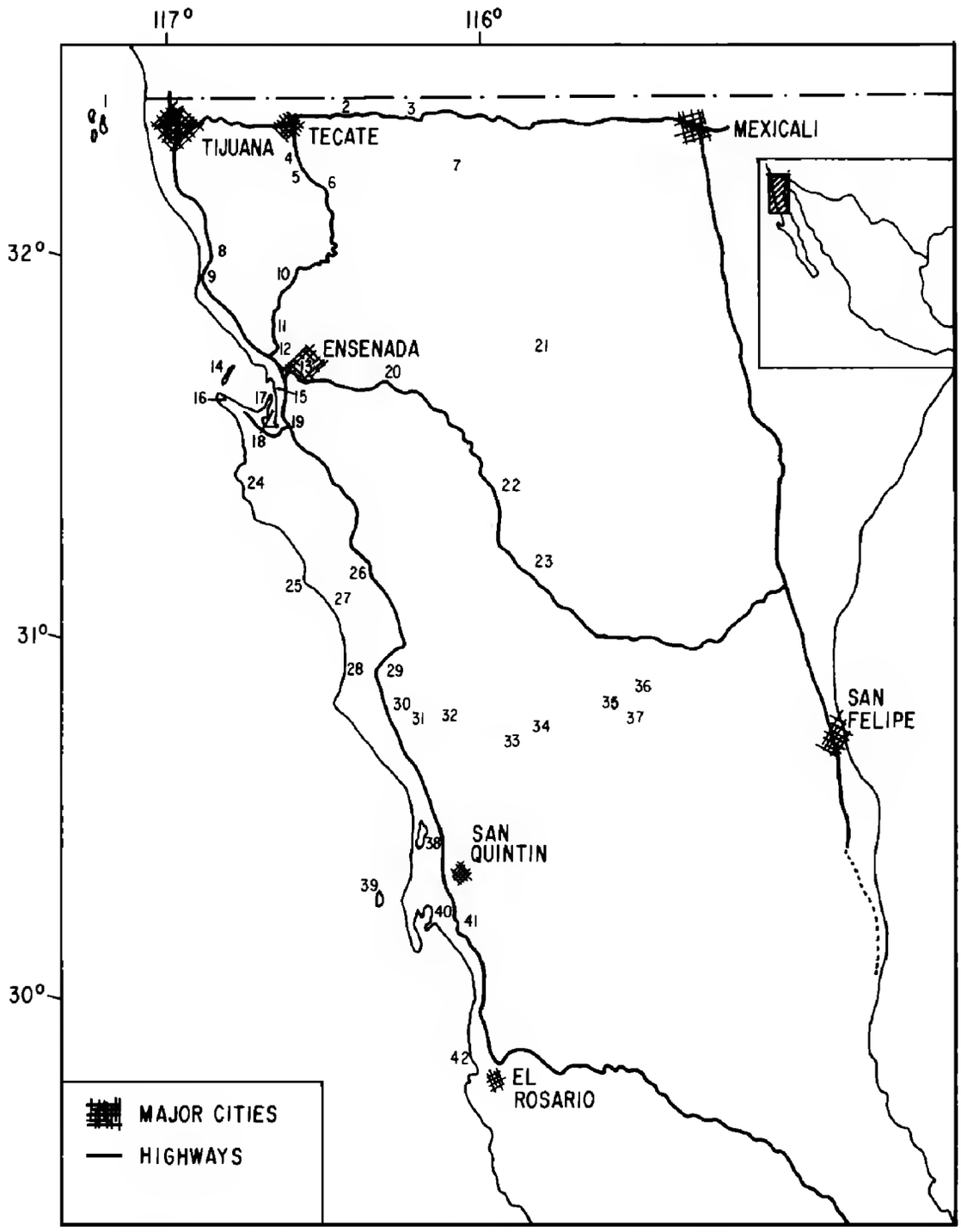

Figure 1. Northwestern Baja California, showing the localities mentioned in the text. 1. Islas Los Coronados; 2, Rancho San Martín; 3, Valle Nachogüero; 4, Rancho Santa Alicia; 5, Rancho San Marcos, Valle Las Palmas; 6, El Testerazo; 7, Japá; 8, La Misión; 9, La Salina; 10, Colonia Guadalupe; 11, San Antonio de las Minas; 12, El Sauzal; 13, Presa Emilio López Zamora; 14, Islas Todos Santos; 15, El Ciprés; 16, Punta Banda; 17, Punta Banda barrier beach; 18, Estero de Punta Banda; 19, Maneadero; 20, Sangre de Cristo (Ojos Negros), Valle San Rafael; 21, Laguna Hanson; 22, Eijdo Héroes de la Independencia; 23, Valle de Trinidad; 24, Bocana de Santo Tomás; 25, Punta Cabras; 26, San Vicente Ferrer; 27, Ejido Eréndira; 28, San Antonio del Mar; 29, Colonet; 30, San Telmo de Abajo; 31, San Telmo de Arriba; 32, Ejido Sinaloa; 33, Las Cabras; 34, Rancho San José de Meling; 35, Vallecitos; 36, San Pedro Mártir Observatory; 37, La Grulla; 38, Laguna Figueroa; 39, Isla San Martín; 40, Bahía de San Quintín; 41, La Pinta pond; 42, mouth of Río del Rosario.

is now more numerous, probably as the result of a general population increase over the last 10 years (e.g., Ivey et al. 1988, *American Birds* 45:1160, 1991; 46:1178, 1992). La Pinta pond, south end of Bahía de San Quintín: 19, 12 September 1990 (EM). El Ciprés pond and nearby agricultural fields: 24, 20 November 1992 (SG). Estero de Punta Banda: 7, 27 April 1989 (EP). Laguna Figueroa: 1, 24 February 1993; 6, 8 August 1993 (EP, SG, LA). Howell and Pyle (1990) reported 20 circling over Tijuana on 16 May 1989.

Turkey Vulture (*Cathartes aura*). "Usually 20 or less are observed together" (Wilbur 1987). We noted 56 flying toward a roost in two rows of eucalyptus trees at Valle de las Palmas, 23 February 1991 (AMR, EP, EM, LA).

Whistling Swan (*Cygnus columbianus columbianus*). Japá: 5, 24 November 1988 (PU). Grinnell (1928) and Wilbur (1987) listed nine previous occurrences in Baja California, maximum three individuals per occurrence. Kurt Radamaker (pers. comm.) reports that a maximum of 12 have wintered annually at Héroes de la Independencia since 1984.

White-fronted Goose (*Anser albifrons*). This "rare winter visitor" (Wilbur 1987) has been recorded at various wetlands along the Pacific coast of Baja California. We add a new site to the list. Laguna Figueroa: 1, 15 December 1993 (EP, EM, SG).

Snow Goose (*Chen caerulescens*). There appears to be only one published record for northwestern Baja California (San Quintín, Wilbur 1987) previous to ours of 21 at Laguna Figueroa, 15 December 1993 (EP, EM, SG). One of the individuals was of the blue morph, the rest of the white. S. N. G. Howell (pers. comm.) found five, all white, at Héroes de la Independencia on 9 January 1994.

Cinnamon Teal (*Anas cyanoptera*). Laguna Figueroa: 3 pairs, one with 4 chicks, 29 May 1993 (EP, SG, LA). The only other Baja California breeding localities reported for the Cinnamon Teal are the Valle San Rafael 40 km east of Ensenada (Bryant 1889, Huey 1928), La Grulla in the Sierra San Pedro Mártir (Anthony 1893), Héroes de la Independencia in the Sierra Juárez, and the Río Colorado delta (Howell and Webb 1992).

Northern Shoveler (*Anas clypeata*). Laguna Figueroa: 1, 29 May 1993 (EP, SG, LA). We find no previous Baja California reports of this winter visitor outside its normal season.

Red-breasted Merganser (*Mergus serrator*). Bocana de Santo Tomás, in lagoon at mouth of Río Santo Tomás: 1, apparently flightless, 20–21 June 1987 (PU). Small numbers summer annually just to the north along the coast of San Diego County (Unitt 1984), but there is apparently only one previous midsummer report of this species in Baja California, at El Rosario (Wilbur 1987).

Ruddy Duck (*Oxyura jamaicensis*). El Ciprés pond: 1 female with 10 chicks, 10 June 1990; 1 female with 4 chicks, 30 May 1991; 1 female with 12 chicks, 3 June 1992 (SG). Presa Emilio López Zamora (Ensenada): 3 females with 8 chicks, 23 May 1991 (SG). Laguna Figueroa: 1 pair with 7 chicks, 3 July 1993 (EP, SG, LA). There are only three previous records of Ruddy Ducks breeding on the peninsula: Santiago, cape region, "large colony" in November 1887 (M. A. Frazar in Brewster 1902), "latitude 31° N," no date, (A. W. Anthony in Bryant 1889), and Laguna Hanson, 1925 (Huey 1928).

Osprey (*Pandion haliaetus*). After a decline in numbers a few decades ago, this species is now recuperating, as reflected by our recent observations. El Sauzal: 1, 12 April 1994 (EM). Estero de Punta Banda: 2, 15 February 1992 (EP, SG). San Antonio del Mar: 1, 6 May 1991 (EP, LA). Bahía de San Quintín: 2, 24 February

1992; 4, 26 September 1992; 1, 24 November 1992; 1, 27 February 1993; 1, 29 March 1993; 1, 28 May 1993 (EP, SG, LA).

Northern Harrier (*Circus cyaneus*). San Telmo de Arriba: a pair performing courtship flights, 8 March 1991 (AMR, EP, LA). Nesting of the Northern Harrier on the peninsula has been reported only from "northwest Lower California near the boundary line" (N. S. Goss in Belding 1890), Cabo Colonet, and San Ramon (A. W. Anthony in Bryant 1889). The late Richard P. Phillips photographed a fledgling Northern Harrier at the mouth of the Río San Telmo on 21 June 1967 (photo in file of the San Diego Natural History Museum's Education Department), and S. N. G. Howell (pers. comm.) noted a female carrying prey 14 km east of San Telmo de Arriba on 15 June 1991. Huey (1926) saw the species in April and May 1925 at El Rosario, its southernmost probable breeding locality in Baja California.

Cooper's Hawk (*Accipiter cooperii*). Wilbur (1987) reported Cooper's Hawks nesting in Baja California south to about 30° 45'N. We mention our single record, of a nest with at least one downy chick in the Río Santo Tomás 3 km east of La Bocana on 21 June 1987 (PU), because known breeding sites here are so few, because the species may be declining, and because the nest was in a willow. The overwhelming majority of Cooper's Hawk nests in Upper California are placed in live oaks (Asay 1987). Also, at the mouth of the Río del Rosario, a Cooper's Hawk was killing an American Coot (*Fulica americana*) on 28 January 1991 (AMR, EP, EM, LA).

Peregrine Falcon (*Falco peregrinus*). This species is still rare in northwestern Baja California, especially during the summer. Bahía de San Quintín: 1, 24 February 1992; 1, 24 November 1992; 1, 28 May 1993 (EP, LA). Salt pond 15 km north of Bahía de San Quintín: 1, 8 August 1993 (EP, LA, SG).

Wilson's Plover (*Charadrius wilsonia*). Punta Banda: 1 adult in the Least Tern nesting colony on the barrier beach, 15 June 1989; 1 in the same place, 23 May 1993 (EP). The only previous reports of Wilson's Plovers on the Pacific coast of Baja California are from south of 28° N in the state of Baja California Sur (Wilbur 1987).

Mountain Plover (*Charadrius montanus*). Road to San Antonio del Mar, 2 km west of Colonet: 12 in an open agricultural field, 25 January 1991 (AMR, EP, EM, LA). El Ciprés pond: 2, 15 December 1989 (SG). Wilbur (1987) thought the Mountain Plover probably fairly common, though little documented. However, the species' current rangewide rarity and extreme localization in winter suggest that all sites be reported.

Lesser Yellowlegs (*Tringa flavipes*). La Salina: 2, 27 November 1987 (PU). North end of Laguna Figueroa: 3, mixed with Greater Yellowlegs (*T. melanoleuca*), 8 August 1993 (EP, SG, LA). Though the species is a fairly common fall migrant at brackish lagoons in southern Upper California, of the only six published records for Baja California (Wilbur 1987, Patten et al. 1993), only one is for the northwest: La Bocana de Santo Tomás, 14 August 1940, specimen (Huey 1941).

Red Knot (*Calidris canutus*). Estero de Punta Banda: 47, 22 February 1992 (EP, LA). Bahía de San Quintín: 18, 28 March 1993 (EP, SG, LA). These are the first published reports of the Red Knot in northwestern Baja California, but the numbers and dates suggest the species is a regular winter visitor at the two localities, as it is at San Diego Bay. Both sites offer the extensive tidal mudflats required by wintering Red Knots.

White-winged Dove (*Zenaida asiatica*). The northern limit of the White-winged Dove's normal range along the Pacific coast has not yet been well defined. We believe it to be the Río San Telmo, where our records are from 12 km east of Ejido Sinaloa, 2 on 22 June 1986, and Rancho San José de Meling, 6 singing on 13

March 1994 (PU). Short and Crossin (1967) and S. N. G. Howell (pers. comm.) also found White-winged Doves fairly commonly at the latter locality, and Huey (1927) collected a recently fledged juvenile there on 1 October 1926. One at the hot springs at Rancho Vargas, northwest of Los Alamos and east of San Vicente, 10 August 1986 (AMR), more likely represents a migrant; fall migrants generally begin appearing along the coast of San Diego County about this date (Unitt 1984).

Lesser Nighthawk (*Chordeiles acutipennis*). Hills immediately north of El Rosario, 1 km east of the transpeninsular highway: 1, 28 January 1991 (AMR, EP, EM, LA). There are a few previous winter records for southern Upper California but none published for Baja California north of the cape district.

White-throated Swift (*Aeronautes saxatalis*). Wilbur (1987) wrote of this species, "winter records are all from coastal locations, so there may be some withdrawal from higher elevations at that season." San Pedro Mártir Observatory: 12, 28 November 1986 (PU), when ponds in the Sierra San Pedro Mártir remained frozen solid all day, suggesting that White-throated Swifts may attempt to winter at high elevations.

Rufous Hummingbird (*Selasphorus rufus*). One among the volcanoes adjacent to the Bahía de San Quintín, 27 January 1991 (AMR, EP, EM, LA), was presumably an early spring migrant. Our other records are strongly concentrated in the second week of March, suggesting this is the peak of the species' spring migration through northwestern Baja California.

Ladder-backed Woodpecker (*Dendrocopos scalaris*). La Bocana de Santo Tomás: 1 foraging in *Agave shawii*, 21 June 1987 (PU). There is only one record of the Ladder-backed Woodpecker farther north along the coast of Baja California, of a specimen of the brown-breasted subspecies *D. s. eremicus* collected at Ensenada on 27 February 1906 (National Museum of Natural History 196279; Oberholser 1911, M. R. Browning pers. comm.). Short and Crossin (1967) looked for but did not find this species at the mouth of the Río Santo Tomas. In northwestern Baja California, *D. s. eremicus* occurs principally in *Agave shawii*, which is common between Ensenada and Tijuana, so further study may show that the woodpecker extends even farther north. A specimen from the north end of Valle Nachogüero, elevation 3400 feet, about 25 km east of Tecate (Museum of Vertebrate Zoology 52146) is of the pale-breasted subspecies *cactophilus*, as reported originally by Grinnell (1928), although the locality is on the coastal slope.

Western Kingbird (*Tyrannus verticalis*). Rancho San Marcos, Valle de las Palmas: 1, 9 March 1991 (AMR, EP, LA). The bird was presumably an early spring migrant, exceeding by one day the previous earliest record for Baja California, 10 March 1897, Islas Todos Santos (Kaeding 1905).

Western Wood Pewee (*Contopus sordidulus*). About 14 km northeast of Ejido Eréndira: 1, 21 June 1986; 3, 16 May 1987 (PU). These may have been migrants but seemed to be singing territorially. This species is a common summer resident in the Sierra San Pedro Mártir and probably in the Sierra Juárez (Grinnell 1928, Wilbur 1987), but the only other summer record outside the mountains is of one at Sangre de Cristo at the west base of the Sierra Juárez (near 31° 50′ N) 22–23 June 1980 (Wilbur 1987).

Vermilion Flycatcher (*Pyrocephalus rubinus*). Valle de Las Palmas: a pair in a mesquite bosque along the Río de las Palmas just northwest of the town, 19 July 1986 (PU). El Testerazo: a pair with two fledglings in a mesquite bosque, 19 July 1986 (PU). Río San Isidro near the ruins of the Mission San Vicente Ferrer: a pair, 21 June 1986 (PU). Previous breeding-season records of Vermilion Flycatchers in Baja California extend northwest only to Las Cabras, a former locality in the valley of the Río San Telmo (one male collected 4 June 1923, Huey 1926) and Valle de Trinidad

(two males seen, 11 April 1967, Short and Crossin 1967). On the coastal slope of southern Upper California Vermilion Flycatchers once nested sporadically; since 1968 only two nestings have been reported, from Camarillo, Ventura County (*American Birds* 42:1341, 1988), and northeastern Santa Barbara County (Lehman 1994).

Violet-green Swallow (*Tachycineta thalassina*). The long-winged subspecies *T. t. "lepida"* (= nominate *thalassina*, Phillips 1986) breeds in the coniferous woodlands of the sierras Juárez and San Pedro Mártir (Huey 1926, Grinnell 1928, Wilbur 1987), while the short-winged *T. t. brachyptera* breeds mostly in Cardones (*Pachycereus pringlei*) from Santana (28° 40′ N) south to Cabo San Lucas. Anthony (1895) reported Violet-green Swallows nesting in the "cardoons" at San Fernando (29° 57′ N), and this record has since been assigned to "*lepida*" (Grinnell 1928, AOU 1957), though on what basis is unclear; Anthony did not mention collecting any specimens at San Fernando. Huey (1926) also reported seeing "a few coursing over the marsh" at San Ramon (30° 41′ N) "as late as June 6, 1925."

Unitt has found Violet-green Swallows at several coastal locations in northwestern Baja California: Río Santo Tomás 3 km inland from La Bocana (31° 15′ N), 5 on 21 June 1986 and 2 on 16 May 1987; along the Río San Telmo 3 km west of San Telmo de Arriba (30° 57′ N), 1 on 22 June 1986 and 2 on 21 June 1987; along the Río del Rosario 10 km northeast of El Rosario, 2 on 22 June 1986; El Rosario (30° 03′ N), 1 on 22 June 1986. Near Ejido Eréndira on 21 June 1986 a pair was feeding three fledglings at a nest in a hole in a rocky road cut. The site is adjacent to a hill lightly wooded with an isolated colony of Bishop Pines (*Pinus muricata*). The habitat at the other sites includes at least isolated clumps of riparian woodland of willows.

These observations, together with Huey's report, suggest that the Violet-green Swallow is an uncommon and localized but regular summer resident along the coast of northwestern Baja California. The question remains whether this population represents nominate *thalassina*, *brachyptera*, or intergrades.

American Crow (*Corvus brachyrhynchus*). The southernmost reported breeding locality for this species is Valle de Guadalupe (Huey 1926). Currently, crows can be found commonly down to the edge of the town of San Antonio de las Minas, on the road from Tecate to Ensenada (EM). We have not searched for their nesting, but their presence in this area year round suggests that the southern limit of their breeding has moved south, in association with the development of agriculture, and paralleling a recent spread into the city of San Diego. The species extends east at least to 11 km east of Tecate (6 on 4 November 1988, PU).

Verdin (*Auriparus flaviceps*). The Verdin has been reported in Baja California northwest to 40 km east of Ensenada, where Short and Crossin (1967) observed at least four, collected specimens, and saw the birds building a nest in a mesquite. The specimens, according to Phillips (1986 and pers. comm.), are *A. f. acaciarum*, the pale race that inhabits the desert areas of northeastern Baja California and southeastern Upper California, rather than the dark *A. f. flaviceps*, which occurs in central Baja California north to the vicinity of El Rosario (Grinnell 1928). Unitt found two Verdins in the mesquite bosque along the Río de las Palmas just northwest of Valle de las Palmas on 19 July 1986. This observation adds a perspective to the former (last record 1975) fall and winter occurrences of this nonmigratory species in coastal San Diego County. Valle de las Palmas lies only about 55 km southeast of the Tijuana River valley, site of most of the San Diego records, and the Río de las Palmas drains into the Tijuana River.

Cactus Wren (*Campylorhynchus brunneicapillus*). We found one individual of subspecies *sandiegensis* at Rancho Santa Alicia, at the northwestern end of Valle de las Palmas, 23 February 1991 (EM, EP, AMR, LA), possibly at the southermost limit

of this race (Rea and Weaver 1990). An individual captured, and six more seen, on Punta Banda, along the coast, August 1993, were *C. b. bryanti* (EM). A rectrix found in a Cactus Wren nest at Rancho Vargas on 10 August 1986 (AMR) has too much black for typical *bryanti* and resembles *sandiegensis* more closely. This site is south of the known distribution of the subspecies but inland.

"Gray" Thrasher (*Toxostoma cinereum*). We feel certain that Wilbur's (1987) northernmost locality for this endemic, Punta Cabras, is erroneous. We have searched Punta Cabras, finding that it lacks habitat suitable for *T. cinereum*: open scrub with *Myrtillocactus cochal*. The species' northernmost site is Ejido Eréndira, 10 km south of Punta Cabras, where we found two resident pairs on 19 February 1991 and retained one rectrix, now in the San Diego Natural History Museum, as a voucher (PU, AMR, EM, EP, LA). The report for Punta Cabras, and likely other unsupported reports listed by Wilbur, we think based on misidentifications of wintering Sage Thrashers (*Oreoscoptes montanus*), the only other thrasher frequent in the range of *T. cinereum*.

The English name "Gray Thrasher" is grossly misleading, perhaps responsible for such misidentifications, since the bird, especially its northern race, is browner than the Sage and most other species of thrashers. Therefore we propose that the English name of *T. cinereum* be changed to "Baja California Thrasher," since the species is endemic to the peninsula of Baja California (in this case, for parallelism's sake, "Alta California Thrasher" should be adopted for *T. redivivum*), or to "San Lucas Thrasher," used by Ridgway (1907) for the nominate race and by Phillips (1986) for the entire species.

Golden-crowned Kinglet (*Regulus satrapa*). Near Rancho San Martín, 12 km east of Tecate, in oak woodland: 1, 18 January 1975 (PU). The Golden-crowned Kinglet has been reported only twice previously from Baja California, at Vallecitos in the Sierra San Pedro Mártir on 3 February 1981 (R. Stallcup in Wilbur 1987) and near La Pinta pond on 18 January 1984 (Atwood and Collins 1993).

Phainopepla (*Phainopepla nitens*). Although Phainopeplas are common in summer throughout Baja California's lowlands, they are scarce in winter (Wilbur 1987). Our records add to the known occurrences at this time. Río del Rosario: 1 male, 28 January 1991 (AMR, EP, EM, LA); 2 km east of San Telmo de Abajo: 1 male, 21 February 1991 (PU, EM, EP, LA); San Telmo de Arriba: 1 female, 8 March 1991 (AMR, EP, LA).

Bell's Vireo (*Vireo bellii*). Río de las Palmas at Rancho Santa Alicia: 2, an apparent pair, one singing and scolding, one silent, 19 July 1986. Valle de las Palmas, in mesquites as well as willows: 3 singing, 1 of these attending a fledgling Brown-headed Cowbird (*Molothrus ater*), 19 July 1986. Near El Testerazo, in mesquites: 1 singing, 19 July 1986. Río San Miguel at La Misión: 1 singing, 20 June 1987. Río Guadalupe near Ejido El Porvenir: 1 singing, 19 July 1986. Falla de Agua Blanca 12 km southeast of Maneadero: 3 singing, 21 June 1986. Río Santo Tomás 2–3 km east of La Bocana: 10 singing, 20–21 June 1987. Río Santo Tomás 6 km west of Santo Tomás: 1 singing, 20 June 1987. Rancho Vargas: 1 (possibly 2) singing, 10 August 1986 (AMR). 14 km northeast of Ejido Eréndira: 4 singing, 1 feeding a fledgling cowbird, 21 June 1986. 8 km northeast of Ejido Eréndira: 2 singing, 16 May 1987. 2 km northeast of Ejido Eréndira: 1 singing, 16 May 1987. Río San Isidro near Mission San Vicente Ferrer: 3 singing, 1 abandoned nest containing 3 vireo and 2 cowbird eggs, 21 June 1986. Río San Antonio just west of the transpeninsular highway (15 km north-northeast of Colonet): 4 singing, 22 June 1986. Río San Rafael 6 km northeast of Colonet: 1 singing, 21 June 1986. Río San Telmo 3 km east of San Telmo de Abajo: 3 singing, 16 May 1987. Río San Telmo 3 km east of San Telmo de Arriba: 1 singing, 22 June 1986. Rio San Telmo 12 km

east of Ejido Sinaloa, in dry riverbed vegetated predominantly with Tree Tobacco (*Nicotiana glauca*): pair with 2 fledglings, 22 June 1986. Río del Rosario 16 km east-northeast of El Rosario, 2 singing, 22 June 1986. Río del Rosario at El Rosario: 2 singing, 22 June 1986. Unless otherwise specified, these observations are all by Unitt.

All these sites, except that 8 km northeast of Ejido Eréndira, are sites additional to those where Wilbur (1980) found Bell's Vireos. Wilbur had looked for the species at Valle de las Palmas, along the Río Guadalupe, and at El Rosario without finding it, yet we found the species at these sites 6 years later. Possibly regeneration of riparian woodland following the wet winters of the early 1980s contributed in part to these differences.

Orange-crowned Warbler (*Vermivora celata*). The only localities where Orange-crowned Warblers have been reported nesting in Baja California are "arroyos between La Misión and Ensenada" (Howell and Webb 1992), the Islas de Todos Santos (off Ensenada) and South Island of the Islas Los Coronados (off Tijuana). Wilbur (1987) wrote "recorded regularly in the western Sierra San Pedro Mártir in summer ... and presumably breeds there and elsewhere on the northwestern mainland," though this assumption was hardly warranted. The known breeding ranges of several riparian birds that nest regularly in San Diego County, such as the Downy Woodpecker (*Dendrocopos pubescens*), Tree Swallow (*Tachycineta bicolor*), Marsh Wren (*Cistothorus palustris*), and Swainson's Thrush (*Catharus ustulatus*), do not extend south of the international border.

Río San Miguel at La Misión: 1, 20 June 1987 (PU). Río Santo Tomas 3 km inland from La Bocana, in riparian woodland: a pair feeding two young and another adult feeding two fledglings, 21 June 1987 (PU). These observations are the first summer and breeding records of the Orange-crowned Warblers from specific localities on the mainland of Baja California. It remains to be determined whether they represent *V. c. sordida* or *V. c. lutescens*. The populations at San Diego and on the Channel Islands, the Palos Verdes peninsula, Islas Los Coronados, and Islas de Todos Santos represent *sordida* (Grinnell 1928, AOU 1957), but *lutescens* breeds south at least to northern San Diego County (specimens from the Santa Margarita River and Palomar Mountain in the San Diego Natural History Museum) and probably as far south as Otay Mountain, within 5 km of the international border (Unitt pers. obs.). The subspecies identification can be confirmed only through comparison of specimens of known age and sex.

Rose-breasted Grosbeak (*Pheucticus ludovicianus*). Cañada Las Pilitas, San Antonio del Mar: 1 immature, 25 February 1991 (AMR, EM, EP, LA). Wilbur (1987) listed five previous records of the Rose-breasted Grosbeak for Baja California, with only one in winter.

Indigo Bunting (*Passerina cyanea*). Domecq vineyards just northeast of Colonia Guadalupe: 1 singing, apparently first-year male (belly largely white), 19 July 1986 (PU). Wilbur (1987) cited only three records of Indigo Buntings in Baja California, none farther north than Isla Cedros. The Indigo Bunting is a rare but increasing summer visitor to coastal southern Upper California, where it hybridizes occasionally with the Lazuli Bunting (*P. amoena*) (Garrett and Dunn 1981).

Black-chinned Sparrow (*Spizella atrogularis*). West entrance to Rancho San José de Meling: 1, 21 February 1991 (PU, EM, EP, LA); 3, 8 March 1991 (AMR, EP, LA). Because they were singing, we presume these birds to have been early spring migrants, though the species has not previously been reported so early in either northwestern Baja California or Upper California.

Savannah Sparrow (*Passerculus sandwichensis beldingi*). La Salina: 2 May 1991 (EP, LA); 2, 11 July 1993 (PU). Because of the date and habitat (brackish marsh with

Salicornia) it is likely that the species nests here. Massey (1977) failed to find it at this place.

Gray-headed Junco (*Junco hyemalis caniceps*). San Pedro Mártir observatory headquarters: 1 in a mixed flock of the resident Townsend's Junco (*J. h. townsendi*) and migrants from the north, 28 November 1986 (PU). Wilbur (1987) reported only one record of this easily identified subspecies from Baja California: two collected of four seen by D. F. DeSante at La Laguna in the mountains of the cape region on 10 and 11 November 1968.

Great-tailed Grackle (*Quiscalus mexicanus*). This species was recorded by Wilbur (1987) from only the Río Colorado delta and Mexicali area, where it is common. In addition, R. M. Chandler collected one male along the Río Hardy about 19 km south of El Mayor on 8 January 1984 (San Diego Natural History Museum 42826); this first dated record and first specimen from Baja California represents *Q. m. nelsoni*. The Great-tailed Grackle was first observed in San Diego County in 1977 and has been found there in ever-increasing frequency since 1981, so its occurrence in northwestern Baja California was only a matter of time. Howell and Pyle (1993) reported several sightings of Great-tailed Grackles in northern Baja California, including one by Unitt at Bahía de San Quintín. This species now seems to be regular at Maneadero, for example, at least three were there in *Tamarix* on 22 April 1994 (EP). There are now two coastal specimens, both females, in the collection of the Universidad Autónoma de Baja California from Laguna El Rosario (specimens 339 and 340, 8 December 1990). Both are *Q. m. nelsoni*.

Scott's Oriole (*Icterus parisorum*). The breeding range of Scott's Oriole in Baja California is known imprecisely. We doubt that it is still "not uncommon" along the Tijuana River 2–10 miles south of the international boundary and 8–20 miles from the coast, as Anthony (1894) reported it in April 1894. In the lowlands of the northwest, our observations suggest in occurs in the valley of the Río San Telmo [3 km west of San Telmo de Arriba: 1 singing male, 16 May 1987 (PU); 12 km west of Rancho San José de Meling, pair, with male singing, 13 March 1994 (PU)] but not farther north. Wilbur (1987) also found Scott's Oriole along the Río San Telmo, at Las Cabras. The species may winter sparsely in this area, too, as suggested by one male 4 km northeast of Colonet, 1 December 1986 (PU). This locality is north of the previous northernmost winter record on the coast of Baja California (foothills east of San Quintín; Anthony 1894).

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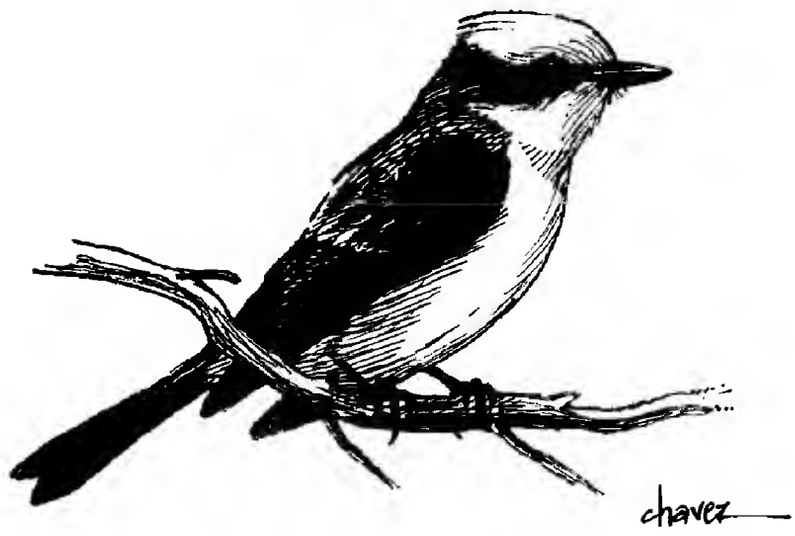

Vermilion Flycatcher

Sketch by Jamie M. Chavez

NOTES

MORE RECORDS OF BREEDING BARN SWALLOWS IN RIVERSIDE, CALIFORNIA

CIN-TY A. LEE, 6523 Westview Dr., Riverside, California 92506

On 21 August 1990 Robert McKernan discovered a pair of Barn Swallows (*Hirundo rustica*) nesting near the city of Riverside. The observation was reported as the first breeding record in Riverside County in "recent history" (*American Birds* 44:1188). Grinnell and Miller (1944) and Garrett and Dunn (1981) indicated that the breeding range of the Barn Swallow in southern California is restricted to coastal regions from Los Angeles County north and scattered localities in Orange, San Diego, and Imperial counties. No mention was made of breeding in Riverside and San Bernardino counties.

My observations from 1990 to 1994 indicate that the Barn Swallow is a fairly common spring and summer resident in and around the city of Riverside. Most observations were of single pairs frequenting a small locale throughout the entire breeding season, so it is unlikely that these sightings pertain to migrants. During 1990, I found four pairs scattered throughout the city. All frequented open habitats (coastal sage scrub, vacant lot, and football field) within or on the edge of the city limits, and often near ponds or canals. Until 1994 I found no juveniles or nests, though I conducted no special search. At two localities (University of California and John W. North High School), a pair has returned every year since the breeding season of 1990. From 1990 to 1994, I made at least fifteen other sightings of individual and paired Barn Swallows.

On 9 June 1994, I discovered two pairs of Barn Swallows at the Riverside National Cemetery. A subsequent search for nests revealed two cup nests, both inside drainage culverts that could be reached only by crawling through a narrow concrete pipe. The pairs were bringing food to their nests, and within weeks young were feeding with parents over the cemetery's lakes. Later the same month, I found two other nesting pairs attending young in other parts of the city (along the Gage Canal and Magnolia Avenue). The nests were located inside a concrete-lined drainage culvert and under the overpass of a concrete-lined canal. Thus all four breeding pairs were near water.

My observations indicate that Barn Swallows are regular spring and summer visitors in Riverside, breeding more commonly than previously recorded. The only other nesting record I know of is of a pair returning from 1979 to at least 1982 in a drainage culvert near La Sierra (M. A. Patten pers. comm.). The dearth of observations in the historical literature suggests that recent sightings of Barn Swallows in Riverside represent a new influx of breeding pairs. It is tempting to speculate that such an influx may be a response to an increase in favorable nesting habitat, that is, man-made water sources and nest substrates. However, the site of one nest, the Gage Canal, has been around since the turn of this century. Keeping tabs on the breeding status and habitat preferences of Barn Swallows in Riverside County in upcoming years can shed light on this matter.

I greatly appreciate the gentle and sagacious comments of Michael Patten and Philip Unitt.

BULLETIN BOARD

WESTERN FIELD ORNITHOLOGISTS' 1995 SAN DIEGO PELAGIC TRIPS

Full-day trips (5:30 A.M.–5:30 P.M.) on 9 (Saturday) and 10 (Sunday) September 1995 will explore the waters between San Diego and San Clemente Island. Expected species include the Pink-footed, Sooty, and Black-vented Shearwaters, Leach's, Black, and Least Storm-Petrels, Pomarine and Parasitic Jaegers, Sabine's Gull, Arctic Tern, Craveri's and Xantus' Murrelets, Cassin's Auklet, and Red and Red-necked (Northern) Phalaropes. Rarities that might be encountered include the Black-footed Albatross, Buller's Shearwater, Fork-tailed Storm-Petrel, Red-billed Tropicbird, Long-tailed Jaeger, South Polar Skua, Ancient Murrelet, and Rhinoceros Auklet. Among cetaceans, the Common and Pacific White-sided Dolphins are expected; possible rarities are the Blue, Humpback, Minke, and Sei Whales.

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CIB, a research institute in La Paz and this year's host of the Cooper Ornithological Society's annual meeting, requests help for its research on the birds of southern Baja California. The effects on birds of rapid urban, agricultural, and tourist developments in this area are an increasing concern, while recent publications from CIB have described the increase of the Crested Caracara and White-tailed Kite in response to these changes. The recent crisis in the Mexican economy has delivered Mexican scientists a serious setback. For assistance with its landbird research, CIB requests contributions, in-kind or as funds, toward the purchase, of camping equipment, photographic equipment, film, gasoline, and a Jeep. All contributions will be acknowledged. For further information, please contact Ricardo Rodríguez Estrella, CIB Noroeste, Div. Biol. Terr., Apdo. Postal 128, 23000 La Paz, Baja California Sur, México, phone 011-52-112-53633, fax 011-52-112-55343, e-mail estrella@cibnor.conacyt.mx.

CORRIGENDUM

Owing to a defect in the typesetter's computer software, in "Sex Ratios and Bill Growth in Nestling Black-chinned Hummingbirds" by Elizabeth P. Elliston and William H. Baltosser (*Western Birds* 26:76–81, 1995), three less-than-or-equal-to signs on page 76 were inadvertently deleted from the camera-ready copy. Please note that two symbols are missing on the fourth line from the bottom and one on the seventh. I regret these errors.

Philip Unitt

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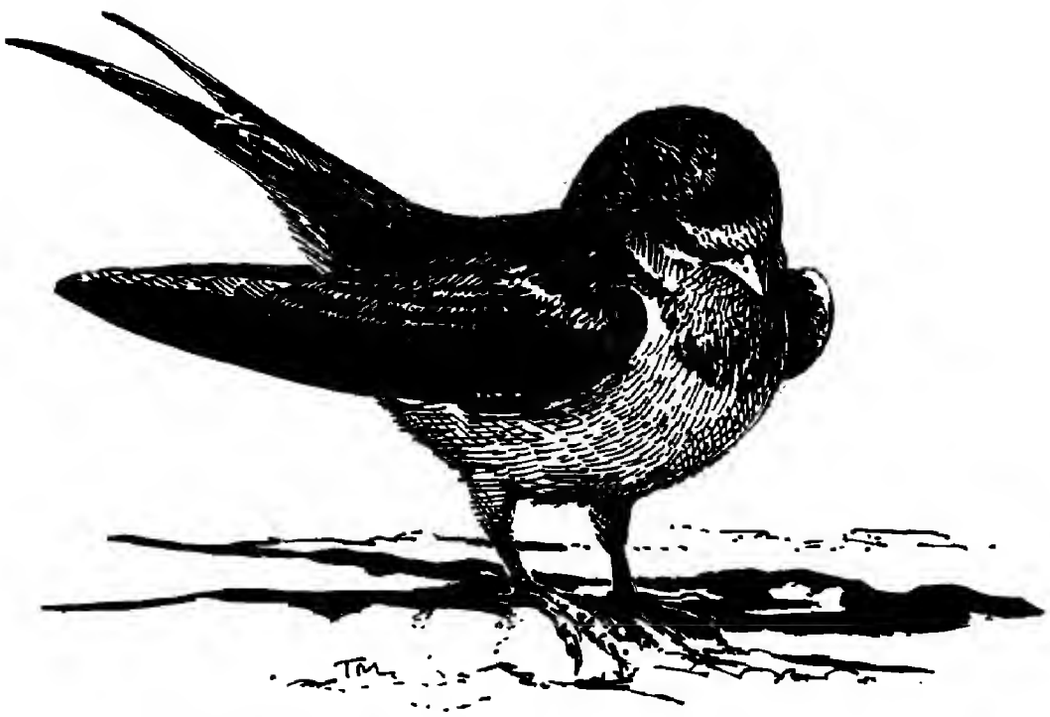

Barn Swallow *Sketch by Tim Manolis*

PROBABLE BREEDING POPULATION OF THE BLACK RAIL IN YUBA COUNTY, CALIFORNIA

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In central California, most California Black Rails (*Laterallus jamaicensis coturniculus*) are confined to the northern San Francisco Bay estuary, with small isolated populations along the outer coast in Tomales Bay, Bolinas Lagoon, Morro Bay, and Bodega Bay (Manolis 1978, Evens et al. 1991, J. Evens pers. comm.). In the Central Valley there is only one definite record north of the Sacramento–San Joaquin delta, of a bird found dead at Gray Lodge Wildlife Management Area, Butte County, in March 1962 (*Audubon Field Notes* 23:516, 1969). This specimen was preserved in a display case at the management area's headquarters. There are no records for the species in any of the foothills surrounding the valley.

Here we report the discovery of a probable breeding population of Black Rails in two marshes (Figure 1, sites 1 and 2) along tributaries of Dry Creek at the University of California Sierra Foothill Research and Extension Center (SFREC) about 24 km east of Marysville in the foothills of the Sierra Nevada, Yuba County, and subsequent detections of Black Rails on two other tributaries of Dry Creek (Figure 1, sites 3 and 4).

The first marsh, varying in elevation from about 200 to 250 m, extends approximately 700 m up Slick's Canyon along a spring-fed unnamed perennial creek surrounded by annual grassland. Marsh vegetation along the creek occurs in a narrow strip, rarely exceeding 10 m wide, and consists primarily of cattails (*Typha latifolia*), with a few scattered willows (*Salix* spp.), figs (*Ficus carica*), Blue Oaks (*Quercus douglasii*), and Interior Live Oaks (*Q. wislizenii*). Historically, the area surrounding the creek was probably a mixed woodland of Blue Oak, Interior Live Oak, and Foothill Pine (*Pinus sabiniana*), but in 1967 it was treated with herbicide and subsequently burned and converted to annual grassland for cattle. Photographs indicate that cattails did not become established along the creek until sometime between 1977 and 1986. Less disturbed riparian areas nearby have few cattails, so presumably cattails were largely absent from the creek prior to its initial clearing. At the time of this study the slopes surrounding the creek were grazed by cattle, and in places the creek was traversed by cattle.

The second marsh is approximately 1 km downstream of the Slick's Canyon site, along Porter Creek, at an elevation of approximately 175 m. This marsh is about 140 m long and 40 m wide and also consists primarily of dense cattails. Although there may have been some clearing around the Porter Creek marsh, it is still bordered by oak–pine woodland.

We began monthly bird counts along Slick's Canyon in May 1994, as part of a project to restore riparian vegetation along the creek. Beginning within one hour after sunrise, one or two observers spent one hour walking 615 m up the creek, keeping about 30 m from the creek, and recording all birds detected within 15 m of the creek. Counts were conducted on 2 May, 1 June, 5 July, 9 August, 9 September, and 11 October 1994.

Initially, we detected one Black Rail by its spontaneous "kik-kik-kerr" call on 1 June 1994. On 9 August, we detected three more by spontaneous "kik-kik-kerr" calls, and saw one briefly as it crossed a gap in the cattails. These were the only spontaneous calls we heard on the monthly counts.

Once Black Rails were discovered, we attempted to count them more completely by eliciting responses to recorded calls. We broadcast calls by using a portable cassette player and a tape made from the Peterson Western Bird Songs compact disc (Cornell Laboratory of Ornithology/Interactive Audio 1992). The tape consisted of about 30 seconds of "kik-kik-kerr" calls, followed by a single "grr" call, and was played over a range of volumes. We conducted broadcast counts at Slick's Canyon on 15 August, 9 September, 13 September, 11 October, and 3 November, and at the Porter Creek Marsh on 15 August, 13 September, and 26 September.

Black Rails were detected on all broadcast counts at the Slick's Canyon and Porter Creek sites, with a high minimum count of 10 rails at Slick's Canyon on 13 September and four rails at Porter Creek on 26 September. Eleven was the largest minimum number of rails detected at both sites on a single count day (13 September). In August and early September, Black Rails responded to recorded calls with "kik-kik-kerr," "grr," and, less frequently, with single-note "yip" calls. From late September through November, "grr" responses predominated, and "kik-kik-kerr" responses were rare.

On 18 October 1994, about four Black Rails responded to broadcast calls at a marsh on another unnamed tributary of Dry Creek about 5 km northwest of the Slick's Canyon site (Figure 1, site 3). This marsh, at an elevation of about 115 m, covers about 2.5 ha, and consists primarily of dense *Scirpus acutus*, with some *Typha latifolia* and lesser amounts of *Juncus* spp. The marsh is fed by a spring and by irrigation run-off.

On 20 October 1994, one or two Black Rails responded to broadcast calls at a fourth marsh on another unnamed tributary of Dry Creek about 4 km west of the Slick's Canyon site (Figure 1, site 4). This marsh, at an elevation of about 75 m, is about 25 m wide and 100 m long and is dominated by dense *Typha latifolia* and *Juncus* spp. Water for the marsh appears to be supplied primarily by leakage from an irrigation ditch.

Although all Black Rails seen during this study appeared to be adults, we think that the spontaneous territorial calls heard in June and August and the number of rails along Slick's Canyon indicate that at least at that location the population is probably breeding.

The population we report here is 130 km from the main concentration of the species in central California but is not particularly unusual in its use of habitat. In central California Black Rails breed most regularly in tidal marshes dominated by *Scirpus*, *Juncus*, and *Salicornia*, but a few have been found in freshwater marshes dominated by *Typha* (Manolis 1977). Along the Colorado River and associated canals, Black Rails are regularly found in marshes dominated by *Typha* (Evens et al. 1991, Flores and Eddleman 1993). Several studies have suggested that breeding Black Rails may be confined to shallow marshes with little or no daily or annual fluctuation in water level (Repking and Ohmart 1977, Manolis 1978, Flores and Eddleman 1993). During our study, Slick's Canyon marsh was less than 3 cm deep in most places, although winter flooding is probably common.

Our discovery underscores the need for further studies to better elucidate the distribution and habitat requirements of the Black Rail in California. Despite several distributional studies and a "threatened" listing by the California Department of Fish and Game (California Department of Fish and Game 1992), the status of the Black Rail in California's Central Valley is almost completely unknown (Manolis 1978, Evens et al. 1991). The discovery of this Sierra foothill population suggests that Black Rails may be more widely distributed in the valley than previously thought, and that Black Rails may be able to persist even in small rather disturbed marshes if necessary conditions exist.

We thank Charlotte L. Coulter for assistance with field work, the University of California, Cooperative Extension, Integrated Hardwood Range Management Pro-

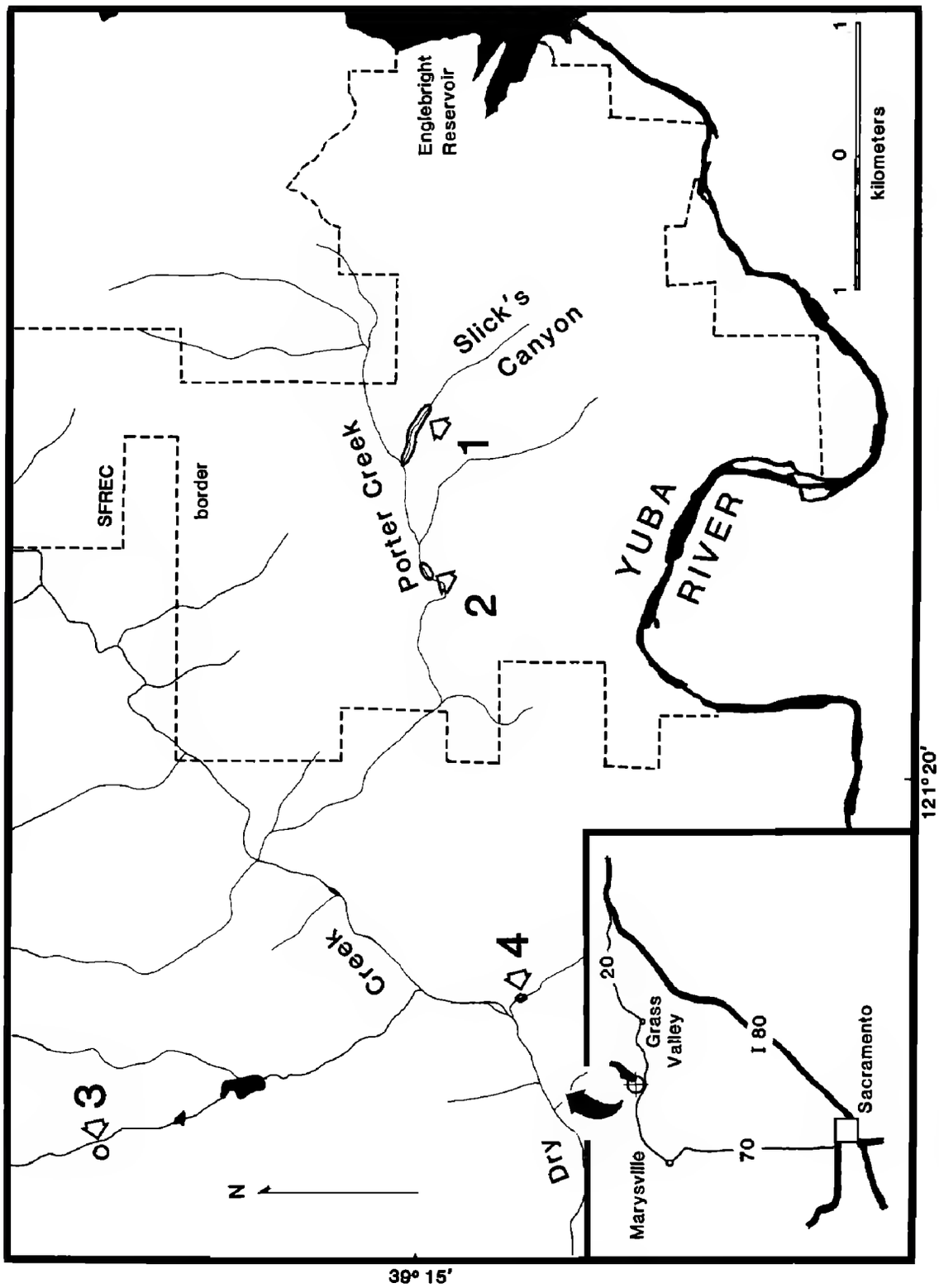

Figure 1. Locations of the four sites where Black Rails were detected in Yuba County, California. The dotted line indicates the boundary of Sierra Foothill Research and Extension Center (SFREC).

gram for partially funding this study, and Mike Connor and the staff of SFREC for logistic support. We also thank Tim D. Manolis and Jules G. Evens for confirming our identification of Black Rails, and them and Michael L. Morrison and William M. Block for reviewing earlier drafts of this manuscript.

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SEMIPALMATED PLOVER NESTING ON THE OREGON COAST

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In the Pacific Northwest, the Semipalmated Plover (*Charadrius semipalmatus*) is primarily a migrant, occurring in flocks along the coast during spring migration from mid-April to mid-May and in fall migration from July through September. Peak numbers occur in late April and late July. Occasional small flocks of non-breeding birds remain through the summer (Paulson 1993) and may be found in suitable habitat in coastal and inland British Columbia, Washington, and Oregon (H. B. Nehls pers. comm.). The species' breeding range, encompassing the North American arctic and subarctic (Paulson 1993), extends south locally in British Columbia to the Queen Charlotte Islands, Iona Island near Vancouver, and Le Blanc Lake inland (Campbell et al. 1990). South of this range, four nests have been recorded from coastal Washington and the interior of Oregon. The first Semipalmated Plover nest recorded in Oregon was found at Stinking Lake on Malheur National Wildlife Refuge, Harney Co., in 1987 (Ivey et al. 1988). Ivey and Baars (1990) reported a second nest from Malheur National Wildlife Refuge, at Harney Lake, in 1989. Two successful nests were found along the Pacific coast at Ocean Shores, Grays Harbor County, Washington in 1973 (Morris 1974). Birds have been observed subsequently at these sites, but no additional nests have been found (Nehls pers. comm.) Here we report the first and second documented Semipalmated Plover nests along the Oregon coast.

On 6 June 1993, while conducting surveys for Snowy Plovers (*Charadrius alexandrinus*) on the south dredge spoil of the Coos Bay North Spit, Coos Co., Casler and Hallett observed an adult female Semipalmated Plover incubating a nest. An adult male Semipalmated Plover was flicking bits of shell toward the incubating bird, which tucked them around itself, apparently adding to the nest bowl's lining. After watching the birds for several minutes we approached and found a nest heavily lined with shell fragments and containing three darkly mottled eggs. When the eggs were "floated" to determine their stage of development, all three sank and lay flat on the bottom of the container, indicating that they were new (Hays and LeCroy 1971). Both adult Semipalmated Plovers were highly vocal and did vigorous broken-wing and tail-dragging displays while we were near the nest.

On 8 June, the nest contained four eggs measuring 32.6 ± 0.8 mm × 24.4 ± 0.4 mm (Figure 1). Again, both adults were present and actively defended the nest area. Only three eggs remained in the nest on 26 June; the fourth was lost to unknown causes. The eggs hatched on 30 June and 1 July. We saw the brood regularly through late July, and at least two of the three chicks fledged, as we saw the juveniles flying in early August.

On 18 May 1994, we found a second nest approximately 150 meters from the 1993 nest location. Three of the four eggs hatched on 8 and 9 June 1994; the remaining egg was infertile. We used a circular walk-in nest trap to capture and band both adults with an aluminum U.S. Fish and Wildlife Service band on their right leg and two of three chicks on their left leg (Figures 2 and 3). Although we did not observe this brood regularly, on 9 July we saw a banded fledgling Semipalmated Plover with a flock of about 20 adult Semipalmated Plovers on the Coos Bay North Spit.

On 28 June 1994, we saw an adult Semipalmated Plover making a nest scrape approximately 15 meters from the 1994 nest, and on 1 July a pair of Semipalmated Plovers was copulating near this scrape. The male was unbanded; we could not tell if

the female was banded. Subsequent searches of the area did not reveal successful nesting. The presence of the unbanded male suggests that at least three Semipalmated Plovers were engaged in breeding at this site in 1994.

Both Semipalmated Plover nests and the nest scrape were located on top of low shell-covered rises. The nest bowls were heavily lined with shell fragments and, while readily distinguishable from the sparsely lined Snowy Plover nests nearby, could be confused with Killdeer (*Charadrius vociferus*) nests, which are also heavily lined. The Semipalmated Plover eggs were smaller than Killdeer eggs and much darker and more heavily mottled than Snowy Plover eggs.

When approached, unlike the Snowy Plovers, which typically skulked away from the nest before displaying, the Semipalmated Plovers tended to call while standing close to their nests. Both members of the pairs were observed incubating. Both adult Semipalmated Plovers associated with the 1993 nest stayed with the chicks until fledging. The 1994 brood was not observed regularly, so it is not clear if both adults tended the brood. Broods in both years used the same stretch of beach along the bay east of the south dredge spoil. In addition, the 1994 brood used an area surrounding the dredge spoil and recently cleared of vegetation.

At 124° 19' 45" N, 43° 21' 30" W, the Semipalmated Plover nests at Coos Bay are the southernmost known for this species along the Pacific coast. The Semipalmated Plovers used nesting habitat similar to that of Snowy Plovers, as have all nesting Semipalmated Plovers detected to date in Oregon and Washington. The discovery of successful nests in 1993 and 1994 and apparent nest attempt in 1994 suggest this area may be used intermittently, if not regularly, by a small number of

Figure 1. Semipalmated Plover nest at Coos Bay, Coos County, Oregon, 8 June 1993.

Photo by Bruce Casler

Figure 2. One- or two-day-old Semipalmated Plover chicks at Coos Bay, Coos County, Oregon, 9 June 1994.

Photo by Bruce Casler

Figure 3. Adult male Semipalmated Plover at Coos Bay, Coos County, Oregon, 9 June 1994.

Photo by Bruce Casler

nesting Semipalmated Plovers. Birders should watch for evidence of Semipalmated Plovers nesting to document further the extent to which this species nests in the Pacific Northwest.

These observations were made during Snowy Plover surveys supported in part by the Oregon Department of Fish and Wildlife and the Coos Bay District of the Bureau of Land Management.

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FIRST CONFIRMED BREEDING OF THE LEAST BITTERN IN INYO COUNTY, CALIFORNIA

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The breeding status and distribution of the Least Bittern (*Ixobrychus exilis*) in California have never been fully worked out, owing to the species' small size, secretive habits, and nearly inaccessible marsh habitat. Grinnell and Miller (1944) listed no breeding records for Inyo County. Garrett and Dunn (1981:92) thought "it possibly nested recently in the Saline Valley, INY (two pairs on 25 July 1975), and it may nest very locally elsewhere in District D" (of which Inyo County is part). Most recently, Small (1994:49) concluded that the Least Bittern's "present status in the state is unclear," adding that "it is best regarded as a very local lowland breeder away from the deserts." Recent breeding records for the Great Basin are limited to Malheur National Wildlife Refuge, Oregon, and Honey Lake, California, with no breeding records for Nevada (Alcorn 1988:19, Ryser 1985:90). Elsewhere in the Great Basin, the Least Bittern is a rare migrant (AOU 1983:43–44, Gibbs et al. 1992:2). With much still uncertain about this tiny heron, "in severe decline through a wide portion of its range" (Ehrlich et al. 1992:121), breeding records—such as I present here—are a valuable addition to ornithological knowledge.

In July 1991, I discovered Least Bitterns nesting at Billy Lake, 5 km northeast of Independence, Inyo County. By the end of August 1991, I had found four broods of nestlings there. For the next three breeding seasons, 1992–1994, I observed intensively at Billy Lake, primarily by paddling slowly around the lake in a kayak. Each summer I checked other nearby ponds and marshes and the nearby Owens River; the only other evidence of nesting Least Bitterns I found was at Cottonwood Marsh, along the west side of Owens Lake 5 km south of Lone Pine, 5 July and 28 July 1992 (two flightless young). I found most broods by hearing the peeping calls of the flightless young. Only four times did I find actual nests; all other nests were invisibly hidden in dense cattails (*Typha domingensis*). Over the four years, I spent 243 hours observing or looking for Least Bitterns. In 1992 I found five broods at Billy Lake; in 1993, eight; in 1994, seven.

Billy Lake, a former marsh, was impounded by the Los Angeles Department of Water and Power in 1984, creating a long narrow pond of approximately 6 hectares, typically 2 meters deep. Its elevation is 1146 meters, on the extreme western edge of the Great Basin, with the Sierra Nevada dominating the scenery 15 km to the west.

Billy Lake approximates the hemi-marsh condition (nearly equal amounts of open water and emergent vegetation) particularly conducive to breeding of Least Bitterns (Gibbs et al. 1992). The emergents comprise three general forms: (1) a nearly continuous ribbon of cattails, 1–2 meters wide, surrounding the lake, (2) approximately 1 hectare of dead salt cedar (*Tamarix chinensis*) and dead willows (*Salix* spp.), and (3) "islands" of cattails surrounded by water.

Least Bitterns at Billy Lake nest preferentially in the cattail islands; 21 of 24 broods (87.5%) I found were on islands, well protected from predators and the cattle foraging in the surrounding open range. Average number of nestlings per brood was 3.33 (range 2–6). The average reported in the literature is about 4.5 (Weller 1961). Possibly this discrepancy arose because I usually saw only the hatched nestlings; only once did I find a nest with eggs.

Three locations in the cattail islands at Billy Lake have been used for nesting in three of the four years of my observations, suggesting nest-site fidelity.

To estimate the dates of egg laying, I used 19 days for the incubation period and 25 days as age of first flight (Ehrlich et al. 1988). I backdated 44 days (19 + 25) from first observed flight. If I had no data for first flight for a brood, I used 7 days as their

age when I could first hear them calling; I then backdated 26 days (19 + 7) to estimated date of laying. Where both dates were available the two estimates of egg-laying dates were within one day of each other, substantiating my estimate of an age of 7 days for first audible calls.

In 1993 (year of my most complete data) I observed eight broods. Estimated dates of laying for these broods, by the methods above, were 1 May, 3 May, 3 June, 7 June, 1 July, 2 July, 5 July, 21 July. Some phase of nest-building, incubation, or feeding of the young was concurrent for at least four of these broods, so there were at least four different pairs of parents. These data suggest, but are insufficient to confirm, double brooding. Nor have other observers confirmed double brooding with marked Least Bitterns (Gibbs et al. 1992, Weller 1961).

A clutch of five nestlings that I observed from hatching could leave the nest for brief periods by an age of 7 days. They gradually expanded their range of activity until at 17 days they abandoned the nest completely, not returning to it even to sleep. As each juvenile Least Bittern attained flight at an age of 25 days (development is asynchronous), it flew across the water to another nearby clump of cattails but continued to call to its nestmates. Then, in a process that I have followed repeatedly at Billy Lake, the group of young bitterns gradually moved farther from its nest island. From day to day I relocated them by their loud and continuous calling. When they were approximately 40 days old I could no longer find them.

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HUDSONIAN GODWIT MIGRATION AT CARTER SPIT, ALASKA

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During shorebird surveys from 2 July to 12 August 1994 at Carter Spit (59°15' N, 162°00' W), along the southeastern shore of Kuskokwim Bay, western Alaska, I observed relatively large numbers of Hudsonian Godwits *(Limosa haemastica)* staging and in migration. The Carter Spit area comprises four spits and tidal mudflats along 35 km of coastline. Inland, wet tundra with numerous brackish and freshwater ponds extends for 8 km to the upland tundra and bare gravel ridges of the coastal Ahklun mountains (307–730 m). Thickets of willow (*Salix* spp.) and alder (*Alnus* spp.) line the banks of four creeks that originate in the mountains and drain into Kuskokwim Bay.

From the sum of daily counts over the 6 weeks, I saw 1204 Hudsonian Godwits. Daily counts of 100+ birds were recorded in coastal areas seven times from 6 to 26 July, with a maximum single daily count of 230 birds on 13 July. Most birds were in breeding plumage, but 18 were in general body molt and 8 were juvenal plumage. Hudsonian Godwits breed in coastal and inland areas of Kotzebue Sound, Norton Bay (Kessel and Gibson 1978), and Cook Inlet (Williamson and Smith 1964), and are rare breeders on the interior Yukon–Kuskokwim delta (B. McCaffery, U. S. Fish Wildlife Service, pers. comm.). In fall migration, the species is known on tide flats in the northern Yukon delta in mid-July in flocks of 200 or more (Jones and Kirchhoff 1977) and in Cook Inlet in August with a maximum count of 106 birds along 5 km of mudflats (Kessel and Gibson 1978). These are the only places in the state where Hudsonian Godwits are known in numbers greater than a few individuals during fall migration. Therefore, my sightings of hundreds of birds over an extended period are noteworthy and suggest that the Carter Spit area is an important staging site for the species. These birds are likely from breeding areas in western Alaska (Kessel and Gibson 1978, Kessel 1989). A fall migration route from Alaska is not known, but the absence of Hudsonian Godwits along the Pacific coast implies long nonstop flights to wintering grounds in South America.

I thank Christopher C. Witt, Richard L. Knight, and Scott H. Harris for their patience and birding skills in the field. Michael Hinkes of the U. S. Fish and Wildlife Service, Togiak National Wildlife Refuge, provided communications and daily contacts with office staff. I thank George Walters and John Morgart of the U. S. Fish and Wildlife Service, Yukon Delta National Wildlife Refuge, for facilities and aircraft support.

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CORRIGENDUM

Owing to a defect in the typesetter's computer software, in "Sex Ratios and Bill Growth in Nestling Black-chinned Hummingbirds" by Elizabeth P. Elliston and William H. Baltosser (*Western Birds* 26:76–81, 1995), three less-than-or-equal-to signs on page 76 were inadvertently deleted from the camera-ready copy. Please note that two symbols are missing on the fourth line from the bottom and one on the seventh. I regret these errors.

Philip Unitt

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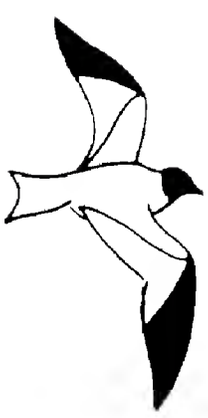

WESTERN BIRDS

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Cover photo by © Peter La Tourrette of Los Altos, California: Western Bluebird *(Sialia mexicana)*, Jasper Ridge Biological Preserve, Stanford, California, April, 1994.

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WESTERN BIRDS

Volume 26, Number 4, 1995

RANGE EXPANSION OF THE GLAUCOUS-WINGED GULL INTO INTERIOR UNITED STATES AND CANADA

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Historically, the Glaucous-winged Gull (*Larus glaucescens*) has been considered an almost strictly coastal species in North America, only occasionally straying very far inland. It breeds along the Pacific coast and on nearby inland lakes from Alaska south to northwestern Oregon and winters from the Bering Sea south to southern Baja California and the Gulf of California (A.O.U. 1983, Verbeek 1993). In the most recent monograph on the species, Verbeek (1993) considered this species regular in small numbers in Sonora, casual in winter in eastern Washington, Idaho, Montana, Utah, Arizona, New Mexico, and central California, casual in migration in Alberta, and accidental in Yukon, Manitoba, and Oklahoma.

Verbeek (1993) gave no information on historical changes in distribution. Much earlier, however, the species had been shown to have spread in winter from the coast inland along the Columbia River system into eastern Washington (LaFave 1965) and adjacent Oregon [e.g., *American Birds* (AB) 29:91, 1974]. Fischer (1988) and Tove and Fischer (1988) believed that records for Utah in the mid 1980s represented the beginning of expansion of the winter range into the eastern Great Basin.

Here we extend the study of the Glaucous-winged Gull's inland expansion to all interior western states and provinces (except Yukon) and, less completely, to inland portions of Pacific coastal states and provinces (except Alaska). Our data considerably modify the species' status in some of the regions listed by Verbeek (1993) and add Saskatchewan, eastern Oregon, Nevada, southeastern California, Colorado, and Illinois to his range. We present evidence for a recent, ongoing, potentially widespread and permanent range expansion into the interior of western North America. We also discuss factors that may account for this spread and compare them to dispersal theory.

METHODS

We thoroughly searched *Audubon Field Notes*, *American Birds*, and *National Audubon Society Field Notes* from 1950 through 1993. We contacted local authorities (see Acknowledgments for names) and records committees in all states and provinces west of the Mississippi River and some to the east, as well as museums known to house inland Glaucous-winged Gull specimens. We reviewed state and provincial monographs, but relied on our contacts to provide local publications not otherwise available to us.

INLAND EXPANSION

In the following discussion, each individual is considered one "record"; see the Appendix for details and citations. The terms "vagrancy" and "vagrant" are used loosely for individuals occurring inland from this species' "normal" Pacific coast range.

Interior Records

We have accumulated 97 records for interior states and provinces, distributed as follows: Nevada (28, two of which were seen also in Arizona), Idaho (23), Utah (14), Alberta (14), Arizona (5, including two seen also in Nevada), Colorado (5), Montana (4), New Mexico (2), Saskatchewan (1), Manitoba (1), Oklahoma (1), and Illinois (1). Although some of these records may represent misidentifications (see caveat in Appendix), nine are supported by specimens, at least 19 by photos, and eight by archived written descriptions accepted by records committees, so the species' occurrence inland is well documented. We also have many records from inland locations in coastal states and provinces; these are too numerous to list in the Appendix, but some are cited in the text.

According to local authorities, the species has not been reported in Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, New York, Ontario, South Dakota, Texas, or Wyoming. Documentations for Michigan and North Dakota records have not been accepted by state records committees.

History of Winter Expansion

The earliest record for interior states and provinces was in 1912 at Capron, Oklahoma. Thus vagrancy is not entirely recent. No further records were forthcoming until the mid 1950s, with single birds collected along the Colorado River in Arizona in 1954 and 1956. [Additional reports from Colorado in 1956 (two sightings), Montana in 1955, and New Mexico in 1954 and 1955 were during this same early period; although these are not accepted by us or by regional authorities, neither have they been formally rejected by records committees.] This early period of vagrancy continued slowly, with sightings at Bear Lake, Alberta, in 1958 and 1959, near St. Paul, Alberta, in 1960, at Coeur d'Alene, Idaho, in 1963 and 1965, at Churchill, Manitoba, in 1964 (June), and at Valleyview, Alberta, in

1966, bringing to 10 the number of individuals accepted for inland states and provinces prior to 1971.

Significantly, the Glaucous-winged Gull began to invade eastern Washington during the same early period, occurring first in the Potholes Reservoir region on 22 April and 4 May 1954 (adults; Weber 1981), the same year as in Arizona, and then at Spokane from 5 to 28 February 1956 [three birds photographed; *Audubon Field Notes* (AFN) 10:268; LaFave 1965], on 9 February 1957 (AFN 11:282; LaFave 1965), on 16 February 1961 (two immatures; AFN 15:346; LaFave 1965), and on 27 January 1962 (AFN 16:351). Meanwhile, the species began to be seen along the Columbia River in southeastern Washington (e.g., an adult at O'Sullivan Dam, 16 January 1959; LaFave 1965).

About 1971 vagrancy seems to have begun slowly escalating (Figure 1). Nevada recorded its first Glaucous-winged Gulls in 1971, and one to four were seen each winter through 1977–78. Thereafter came a near hiatus (only six birds), probably due to poor coverage or non-reporting. Beginning in 1991–92, however, from one to three have been recorded annually. In Idaho, after the two initial sightings in 1963 and 1965, the species was

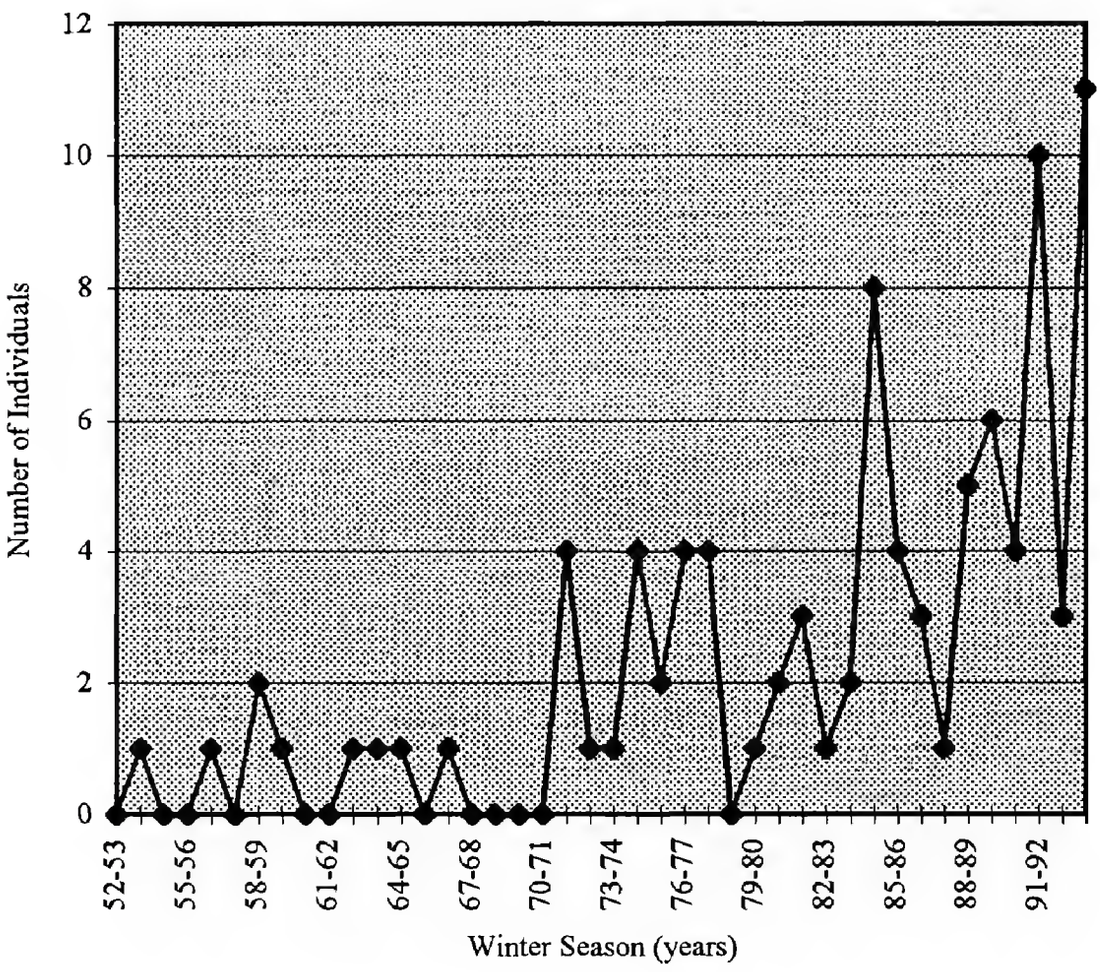

Figure 1. Annual distribution of individual Glaucous-winged Gulls (n = 93) in interior states and provinces during winters 1952–53 to 1993–94. Five June–August records were placed in the previous winter.

recorded only five times until 1986–87. Since then it has been of nearly annual occurrence, with five individuals in 1993–94. In Alberta, where this gull is only a transient, escalation seems to have started in the early 1980s.

As would be expected in an expanding species, areas farther from the Pacific coast had their firsts in later years: Colorado, 1981; Utah, 1983; Montana, 1985; New Mexico, 1990; Saskatchewan, 1991; Illinois, 1992. Fischer (1988) suggested that the nine birds recorded in the winters of 1984–85 and 1985–86 around Great Salt Lake, Utah, represented "a real change in status" and "the beginning of expansion of the winter range into the eastern Great Basin." The first records for southeastern Oregon, where habitat and observers are scarce, were at Farewell Bend, Malheur Co., 16 November 1987 and at Malheur National Wildlife Refuge, 19 December 1988 (Gilligan et al. 1994). Far to the south, small numbers have occurred with some regularity at Puerto Peñasco, Sonora, since about 1982, when seven were seen on 12 February (AB 36:319; S.M. Russell in litt.)

Meanwhile, in eastern Washington and adjacent Oregon, the species had become a regular winter visitor by the winter of 1974–75 (AB 27:797, 29:718; Weber 1981), about the same time it reappeared in Idaho after a nine-year absence. For example, 10 were at Umatilla, Oregon, on 23 November 1974 (AB 29:91). This pattern has continued, for example, with eight birds at Pasco, Washington, and two at nearby Richland on 4 December 1985 (AB 40:305), until today the species not only receives relatively little notice in winter but has been termed "common" along some sections of the Columbia River in eastern Oregon (Gilligan et al. 1994).

The Glaucous-winged Gull appears to be on the increase also in far inland California. The first record we can find for the Central Valley was of an immature at Sacramento 9–20 December 1969 (AB 24:535). Thereafter the species was rarely reported until fall 1985, when 14 were found (AB 40:330). At least 11 were present in the winter of 1986–87 (AB 41:224) and eight in 1987–88 (AB 42:316), bringing the total to at least 51 in 19 years (AB). It now occurs annually in such numbers that it no longer receives notice in *American Birds/National Audubon Society Field Notes* (NASFN). This species seems to be increasing also at its only other regular far-inland California locality, the Salton Sea, where a minimum of 74 birds have been found, mostly in late winter and spring, and it has been reported during all but three years since spring 1965 (AB; Garrett and Dunn 1981). We doubt that coverage of the Salton Sea has improved much in the last 30 years, yet after 18 winters when no more than three were seen in one year, 10 appeared in 1982–83 as the result of a fish die-off (AB 37:338), five in 1989–90 (AB 44:329), and 10 in 1993–94 (NASFN 48:248). Elsewhere in the far interior of the state, we note the following Siskiyou Co. localities and years of occurrence (AB): Tule Lake (1977, 1991), Lower Klamath National Wildlife Refuge (1983), and Yreka (1989). There are also four records from the California side of Lake Tahoe (9 January 1962, AFN 16:361; 20 December 1972, AB 26:651; 17 January 1975, AB 29:727; and 26 November 1975, AB 30:121) and one from Bridgeport Reservoir, Mono Co. (20 June 1987, AB 42:1337), a Great Basin outpost only about 37 miles from a Nevada record at Walker Lake. Although these California data may, as suggested for the Central Valley, "reflect observer effort" (AB

41:324), we suggest that the apparent increase is part of the larger pattern discussed in this paper.

Figure 1 depicts the annual increase in number of records from interior states and provinces. Possibly the current spread was initiated in the 1950s, or even earlier. However, that the population remained stable at a very low level for at least 18 years through winter 1970–71 suggests that the sudden (though small) increase in 1971–72 is a more accurate starting point. Concomitantly, the early 1970s saw an escalation also in the Central Valley of California and in eastern Washington and Oregon. The peak in winter 1984–85 is due to a special study of rare gulls in Utah (Fischer 1988, Tove and Fischer 1988) and hence may not be significant in regard to the timing of escalation. If we disregard these particular Utah records, the strong upward trend starting just after a low in 1987–88 appears more significant. From data in Figure 1 we calculate that the average number of records per year for the winters of 1953–54 through 1970–71 (18 years) was 0.5; for 1971–72 through 1983–84 (13 years), 2.23; and 1984–85 through 1993–94 (10 years), 5.5. Ten-year averages yield similar results.

Inland Breeding

The Glaucous-winged Gull has also extended its breeding range inland, to islands in the Columbia River of eastern Washington and Oregon. At Miller Rocks, Sherman Co., Oregon, four pairs were seen in 1974, adults each year through at least 1987, and adults nearby through 1994. Chicks were found in 1977, and three nests, with one, two, and three eggs, in 1978. At Little Memaloose Island, near The Dalles, Oregon, three pairs were seen in 1974, adults in 1978, and a nest with three eggs in 1981. Also in 1981, a nest with three eggs was noted on Island 20 at Richland, Washington, 548 kilometers upstream from the mouth, and adults were seen in a gull colony on Three-mile Island. These data, summarized from Gilligan et al. (1994) and Conover and Thompson (1984), demonstrate little increase in population numbers since 1974 but do show a rather rapid spread upstream. In addition, hybrids between Glaucous-winged and Western (*L. occidentalis*) gulls nested on Island 18 in the Columbia River at Richland, Washington, in 1981 (Weber and Fitzner 1986). Even the extralimital nesting of a Glaucous-winged Gull mated to a Western Gull on the coast at Pt. Reyes, California, in summer 1994 (NASFN 48:985) could be related to the same factors causing inland expansion.

Age Composition

Of the 77 individuals from interior states and provinces for which we have detailed age data, 54 (70.1%) were first-year (first-winter or first-summer) birds, 13 (16.9%) second-year, two (2.6%) third-year, and eight (10.4%) adult. An additional six were stated to be "immatures." The high percentage of first-year birds may reflect a combination of normal age distribution plus a possible propensity for this age to disperse farther. The lower number of second-year birds and near absence of third-year individuals represent a typical age composition in four-year gulls. What is unusual is the low count of adults, which on the coast in winter normally far outnum-

ber second-year birds and slightly exceed or approximate the number of first-year birds (Verbeek 1993). Thus the interior sample does not have a normal age structure and therefore cannot represent a stable self-perpetuating population. The presence of adults, on the other hand, implies that the inland environment is not a total population sink that eliminates the birds before they have a chance to breed.

ROUTE OF DISPERSAL

Weber (1981) suggested that Glaucous-winged Gulls reaching northern Idaho came through eastern Washington and Oregon via the Columbia and Spokane rivers, and as the species' pattern of initial occurrence and subsequent expansion in all three states is similar, we agree.

How this gull reached other regions of the interior, however, is much more problematical. Possibly, birds in southern Idaho and perhaps farther south in Utah and Nevada, even Arizona, originated in eastern Washington and Oregon and northern Idaho. Once they passed the Cascades, via the Columbia River, birds might have a clear passage southward through the Great Basin. Although we cannot refute this hypothesis, we note that there are no records for the area of Lewiston, Idaho, situated at the confluence of the Snake and Clearwater rivers (Weber 1981), while there are records farther south in the Boise–Nampa region. Furthermore, the Great Basin is fraught with 8–10,000-foot mountain ranges that seem hardly less daunting than the Cascades and Sierra Nevada.

Instead, we suggest that birds pass inland directly over (or through a number of passes in) the Cascades and Sierra. As evidence for this idea stand the four California records (mentioned above) and one Nevada record for Lake Tahoe, at 6229 feet elevation on the California–Nevada border. That the Glaucous-winged Gull is capable of such over-mountain flights is evidenced by the 26 records east of the Rocky Mountains in Alberta, Saskatchewan, Montana, Colorado, Oklahoma, and Illinois.

Glaucous-winged Gulls could enter the Central Valley of California via San Francisco Bay and the Sacramento delta. However, to reach such localities as Redding (AB 39:98) in the northern Sacramento Valley, or Yreka farther to the north, they would have to retreat a considerable distance northward. We think it more likely that they simply fly over the low Coast Ranges.

All 19 Alberta and Colorado records are from east of the Rocky Mountains, and all but one (Colorado, summer) are of spring or fall transients. Geography suggests that birds may use the leading line of the range to fly southeastward from Alberta through Montana, Colorado, and Oklahoma to an unknown wintering destination, perhaps the Gulf coast, where we predict the species will eventually be discovered; this path would also take birds through Wyoming, which has no records yet.

The Glaucous-winged Gull probably uses the Salton Sea as a stepping stone between the Pacific and the Gulf of California, as suspected for other aquatic birds (Garrett and Dunn 1981:30). The recent concentrations at this sea may consist of birds that were heading to or from the Gulf but were

attracted to ephemeral food resources like the fish die-off in 1982–83 (AB 37:338). Thus the species' abundance at the Salton Sea may be intimately related to the number of birds wintering or intending to winter on the Gulf.

CURRENT STATUS

Here we summarize the current inland status of the Glaucous-winged Gull, first geographically for all inland regions, and second temporally for only interior states and provinces. See the Appendix for details. We use the following scale of abundance and regularity: for annual occurrence, *common* (an average of 1–10 per day may be found), *uncommon* (3 per month–1 per day), or *rare* (1 per season–3 per month); for nonannual occurrence, *occasional* (1 individual every 1–3 years), *casual* (1 per 3–11 years), or *accidental* (1 per 11+ years). For mode of occurrence, we use *visitant* for birds seemingly remaining only short periods within winter or summer; *resident* for birds remaining most or all of one winter or summer; and *transient* for what appear to be spring or fall migrants passing through a region. We have avoided the term vagrant because we contend that today many interior birds are within their newly established "normal" range. The number of individual birds recorded is given in parentheses after the name of the area. Extreme dates given for various periods are based on our data and undoubtedly will be expanded by future records.

Geographical

Alberta (14); occasional spring (21 March–9 May) and casual fall (mid September–14 November) transient; we treat two records, 11 and 6–21 August, as representing casual summer visitants, as they are earlier than the species is supposed to migrate (Verbeek 1993) and earlier than any coastal California arrival dates we can find. **Arizona** (5): casual winter resident (12 December–24 February) and accidental late-fall transient (two, 30 October and 17 November). **British Columbia**, eastern (many): spring and fall transient, casual in north, occasional or rare in south. **California** interior (many): as a winter visitant and resident, rare at the Salton Sea and in the Central Valley, casual to accidental elsewhere in the far interior, and commoner near the coast; as a summer resident and visitant, casual at the Salton Sea and casual to accidental elsewhere (but no Central Valley record). **Colorado** (5): casual spring transient (1 March–1 May) and accidental summer visitant (one, 24–25 July). **Idaho** (23): in north, occasional (probably rare) during fall and winter (30 October–8 March), most individuals being late-fall transients or seemingly winter visitants, with only two known to be winter residents (18 November–8 February); in south, accidental fall transient (one, 26 October) and midwinter visitant (two, 4 January, 17 February). **Illinois** (1): accidental late-fall transient (27 November–12 December). **Manitoba** (1): accidental summer visitant or resident (collected 1 June). **Montana** (4): accidental spring transient (one, 21 March–6 April), late-fall transient (one, early November), winter visitant (one, 26 January), and winter resident (one, 7 December–18 April). **Nevada** (28): rare during fall and winter (21 October–27 February), with individuals classed as

occasional late-fall transients (21 October–early January, main migration period from mid November to mid December), casual midwinter visitants, and occasional winter residents (7 December–21 February); accidental spring transient (two, 27 March and 3 May). "One or two individuals almost every winter" (C. C. Lawson in Alcorn 1988); "regular in small numbers from November through February" (L. A. Neel in litt. 1994). **New Mexico** (2): accidental winter resident (21 January–7 March) and nonbreeding summer resident (bird discovered 12 February remained through next summer into October, when collected). **Oklahoma** (1): accidental winter visitant or resident (collected 15 February). **Oregon**, eastern (many): winter resident, uncommon [Gilligan et al. (1994) say "common"] along Columbia River at least as far inland as Umatilla and casual elsewhere; occasional or casual breeding permanent or summer resident along this river as far inland as Miller Rocks, Sherman Co. **Saskatchewan** (1): accidental late-fall transient (9–16 November). **Sonora** (14 reports, some of several individuals): winter resident, occasional (probably rare) at Puerto Peñasco, casual south to the Guaymas area (S.M. Russell in litt.). **Utah** (14): occasional (probably rare) during fall and winter (10 November–26 February), with individuals classed as casual late-fall transients (10 November–28 December) and midwinter visitants and accidental winter residents (one, 7 December–26 February); accidental spring transient (two, 26 Febraury–13 March, and 30–31 March). "It appears now to be a regular migrant and winter visitant" (Fischer 1988). The paucity of records in recent years is because: "no one has looked; I suspect the Glaucous-winged is a regular but rare winter visitor" (E. Sorensen in litt. 1994). **Washington**, eastern (many): winter resident along the Columbia and Spokane rivers, uncommon as far as Richland and occasional from there to Spokane; breeding permanent or summer resident, at least casual, along the Columbia River east to the Richland area.

Temporal

Here we discuss seasonal distribution in interior states and provinces, as shown in part (excluding summer) in Figure 2.

Fall. Fall migration begins as early as mid September (not shown in Figure 2) in Alberta, and elsewhere accelerates sharply in the last few days of October. The earliest arrivals in Saskatchewan, Montana, Idaho, Nevada, Utah, and Arizona all fall between 21 October and 10 November. Of the nine known winter residents, seven arrived between 30 October and 12 December, with five of these on either 7 or 12 December. Migration increases steadily to a peak in mid December, although some individuals continue to arrive through late December and apparently even early January (Nevada).

Winter. Taken as a whole, the population remains rather stable from mid December through mid February, although in at least Idaho, Montana, Utah, and Nevada a few birds continue to wander, i.e., appear, stay briefly, and leave, even in midwinter (about 10 January–10 February). Most winter residents and visitants disappear during the last two weeks of February, when a fairly steady decline in numbers begins and continues through mid

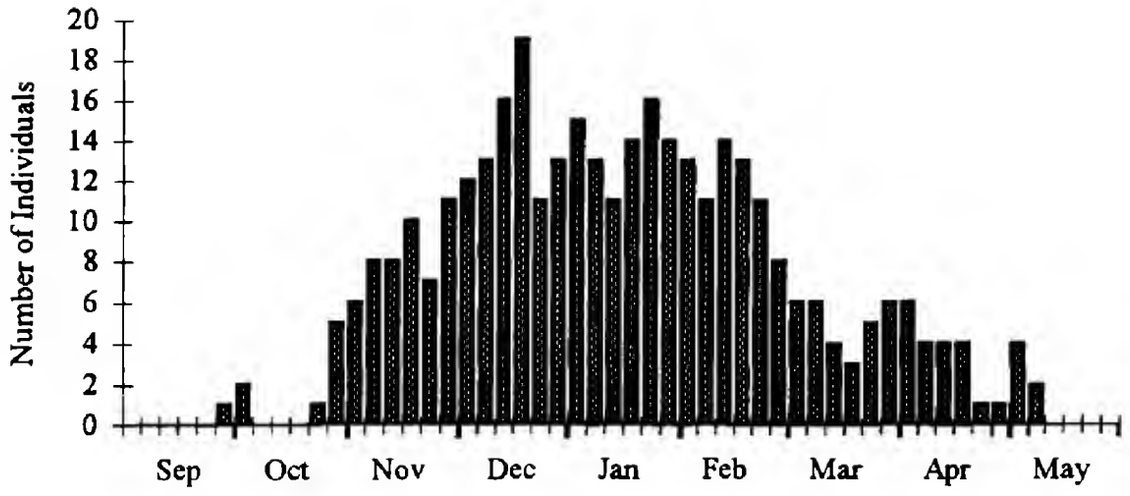

Figure 2. Seasonal distribution of individual Glaucous-winged Gulls (n = 86) in interior states and provinces during approximately 5-day periods, September–May, 1912–1994. Each individual is shown for every period it was present.

March. Overwintering has been recorded for Montana, northern Idaho, Nevada (both northern and southern), Utah, Arizona, and New Mexico. Montana has the Missouri River, and the other five states have large reservoirs, lakes, or rivers that remain open through the winter and are capable of supporting gulls. In Alberta and Saskatchewan the species is only a spring and/or fall transient; the absence of large rivers and the freezing of still waters preclude winter occurrence. Overwintering in northern Idaho is probably more common than the two records suggest; observers there as elsewhere should record inclusive dates of individual birds to determine the extent of overwintering.

Spring. The slight peak in late March and early April reflects spring transients in Alberta and Colorado and, to a lesser degree, Nevada, Utah, and Montana. Dates for spring stragglers extend to 18 April in Montana, 1 May in Colorado, 3 May in Nevada, and 9 May in Alberta.

The entire pattern detailed above is very similar to that on the South Farallon Islands off central California (DeSante and Ainley 1980). Thus the interior population, although consisting of "vagrants" in the sense that individuals are outside the species' normal coastal range, exhibits a pattern typical of a winter resident; there are no temporal anomalies that might indicate a vagrant status.

Summer. Six individuals have been found in interior states and provinces during summer, single birds in Manitoba, Colorado, Nevada, and New Mexico, and two in Alberta. However, the bird found in Nevada in July was discovered as a disarticulated skeleton and hence arrived much earlier. Only the one in New Mexico is known to have oversummered, although the one in Manitoba might have if it had not been collected on 1 June. Hence, some individuals occur in summer in the interior, but most, even immatures, apparently return to the coast or expire.

CAUSES OF INLAND EXPANSION

Coverage

When a species undergoes a very rapid expansion, as in the cases of the House Finch (*Carpodacus mexicanus*; Mundinger and Hope 1982) and Cattle Egret (*Bubulcus ibis*; Crosby 1972), the change is quickly detected and confidently attributed to natural causes. A slow dispersal, however, like that of the Glaucous-winged Gull, even when documented, is often passed off as an artifact of improved coverage by observers. We do not deny the importance of better coverage. The proliferation of birders, better communication among them, improved optics, identification guides, and techniques, and the greater emphasis on finding rarities clearly have contributed to an increase in records of vagrants of many species, including the Glaucous-winged Gull. Nevertheless, for several reasons we believe that increased coverage alone cannot account for the apparent inland expansion of this species.

The possibility that past observers overlooked the Glaucous-winged is unlikely. The only similar species then seen regularly with which it might have been confused was the Herring Gull (*L. argentatus*), which was uncommon enough throughout much of the western interior that all were scrutinized.

During the 1950s and 1960s, inland records of the then common California (*L. californicus*), Ring-billed (*L. delawarensis*), and Franklin's (*L. pipixcan*) gulls, the scarce Herring Gull, and the rare Bonaparte's Gull (*L. philadelphia*) were studiously reported and published in *Audubon Field Notes*. Reports came from some of the same localities where Glaucous-winged Gulls have been found more recently, such as Spokane, Washington (birded in the early 1960s), Farmington Bay, Utah (1963), Ft. Peck, Montana (1964), Coeur d'Alene, Idaho (1966), and Calgary, Alberta (early 1970s). Clearly then, birders were paying attention to gulls and at the proper localities. Yet they identified no Glaucous-winged Gulls.

Neither did they find several other species, most of them easily identified, such as Sabine's (*Xema sabini*), Glaucous (*L. hyperboreus*), and Western gulls, the Black-legged Kittiwake (*Rissa tridactyla*), and jaegers (*Stercorarius* spp.). Today, however, most of these occur somewhere in the western interior virtually every year, often with multiple sightings. For example, for Nebraska, Kansas, Oklahoma, and northern Texas, F. Williams (AB 33:192, 1979) wrote, "In the past ten years the status of Bonaparte's Gull has changed from 'rare transient' to 'common migrant and winter resident'" and "It appears that Sabine's Gulls may be following the same pattern, as they are now reported somewhere in the Region each fall or winter season." The last statement has also been applied to the Black-legged Kittiwake (AB 31:195, 1977). In fall 1981, birders found 13 Sabine's Gulls in Utah, Nevada, Wyoming, and Colorado (AB 36:202). In fall 1990 the same states hosted all three jaeger species, Heermann's (*L. heermanni*), Mew (*L. canus*), Lesser Black-backed (*L. fuscus*), Western, and Glaucous-winged gulls, Black-legged Kittiwake, and "only" eight Sabine's Gulls (AB 45:133), while North Dakota had 11 species of gulls (AB

45:121). Many other examples from throughout the western interior could be cited.

Clearly, then, the *number of records* for many gulls, in addition to the Glaucous-winged, has greatly increased in recent years. We contend that the magnitude of this increase is too great to be accounted for by coverage alone and that several new factors have recently combined to increase the *actual number of birds* and improve their detectability.

Mechanism of Dispersal

Before discussing these new factors, we present a summary of the mechanisms of dispersal, as we believe they might apply to the Glaucous-winged Gull, based largely on Udvardy (1969, especially pp. 71–75).

Vagrancy (nomadism), enhanced by the innate urge and ability to migrate, may be of two major types, slow penetration into areas adjacent to the normal range and jump-dispersal, over inhospitable terrain, into more distant, sometimes far-flung regions. In either case the pioneers encounter newly available suitable habitat. Both types of movement are repeated, in varying degrees of regularity and abundance, but potentially annually in small numbers, resulting in recruitment, fostered by philopatry and longevity. The founders establish local nuclear populations, first in winter and then in summer; breeding may ensue. The nearer an area to the core population, the more often vagrants reach it and the more rapidly a new population is established there.

Breeding Population

One important change leading to inland expansion is the population explosion in large North American gulls (e.g., Conover 1983), including the Glaucous-winged. According to Verbeek (1993), a population on four islands in the western Aleutians nearly doubled from 1970 to 1979; one in the Strait of Georgia, British Columbia, expanded from 6150 pairs in 1959 and 1960 to 13,002 in 1986; in British Columbia as a whole, populations have increased 350% in the last 50 years. The large colony on Protection Island, Washington, grew from 4300 pairs in 1976 to 6785 in 1984, a mean annual increase of 5.9% (Reid 1988, Verbeek 1993).

Such increases have been attributed to protection from human persecution (taking of eggs, adults, and young for food, sport, and the millinery trade), better food resources (garbage dumps, farms, domestic sewage, fish waste), and more breeding sites afforded by islands in new reservoirs (Conover 1983, Reid 1988). Most of these factors also favor gulls in winter.

An increase in the core breeding population of a species may cause intraspecific population pressures, such as overcrowding, that trigger an intrinsic restlessness, leading to nomadism in some individuals (Udvardy 1969). In addition, most if not all migrant species generate vagrants to a greater or lesser degree. If at least some vagrants are misoriented migrants (DeSante 1973), a growing breeding population should cast off increasing numbers of vagrants. A third possibility is the evolution of a new genotype favoring vagrancy; this is more likely "in marginal, vulnerable areas and bridgeheads of expansion" (Udvardy 1969). The new breeding population

in eastern Washington and Oregon, although still very small, seems to qualify, having colonized an environment dissimilar to that on the coast in its moving fresh water, freshwater prey, and inland climate.

Habitat

The inland environment encountered by recent vagrants has changed gradually but significantly. It now includes many large garbage dumps, reservoirs, and hydroelectric dams, habitats that at least in combination can support large gulls.

Of the 86 individual Glaucous-winged Gulls for which we have habitat data from interior states and provinces, 32 (37.2%) were found on reservoirs, 27 (31.4%) at dumps, 14 (16.3%) on rivers, 8 (9.3%) on natural lakes, two (2.3%) on dumps and adjacent rivers, one (1.2%) on a river and a lake, one (1.2%) at sewage ponds, and one (1.2%) inland.

With the proliferation and rising affluence of humanity, edible waste has increased dramatically, and garbage dumps have become larger and more numerous. These are very attractive to the Glaucous-winged Gull, as the 29 (33.7%) birds found in this habitat demonstrate. However, the importance of this habitat should not be overestimated, as 57 (66.3%) birds were seen only in other habitats. Even along the Pacific coast, many Glaucous-winged Gulls feed in natural environments (pers. obs.), and in the interior, use of dumps is confined largely to Utah and Idaho. On the other hand, our data probably do not treat the subject fairly, because other birds, especially in Idaho, although recorded on rivers or lakes, very likely fed at nearby dumps.

Because such birds as Bonaparte's and Sabine's gulls, the Black-legged Kittiwake, and jaegers are not dump-visiting species, we must seek a different explanation for their increased numbers in the interior, one that also fits dump-seekers like the Glaucous-winged Gull. The importance of reservoirs and associated dam effluents may have been underestimated in comparison to that of dumps. As early as 1960 LaFave (1965 and in AFN 14:327) opined that the reservoirs behind Columbia River dams were responsible for bringing more and more rare gulls into eastern Washington, changing the status of the Herring Gull from quite rare to regular in winter. The winter gulls at Ft. Peck, Montana, frequent the Missouri River just below Ft. Peck Dam, where they feed on dead fish that have passed through the turbines of the hydroelectric plant; the nearest garbage dump is over 15 miles away at Glasgow (C. M. Carlson in litt.). G. Berkey (AB 45:121) summarized this effect: "The Missouri mainstream reservoir outlets are great gull feeders, offering ideal conditions for the sparse numbers of rarities that must have overflown the Region before their construction. The collection observed at Garrison Dam this fall [1990] was particularly striking...; 11 of the 12 gull species for North Dakota this season were seen there." Dams without hydroelectric plants may be less attractive to gulls, but we presume that all reservoirs have been stocked with sport fish, a potential food supply.

At many localities, especially near cities, dumps are close to reservoirs, natural lakes, and/or large rivers, and this we believe is an ideal situation for wintering Glaucous-winged Gulls — dumps for feeding, adjacent water for

drinking and bathing, and nearby islands or deep safe waters for night roosting. The absence of one or another habitat may significantly reduce the probability of occurrence and, especially, overwintering of Glaucous-winged Gulls. However, some dam effluents and reservoirs are equally attractive food sources.

Philopatry and Longevity

The Glaucous-winged Gull is partially philopatric in winter, as evidenced by a bird banded 11 miles north of Merville, British Columbia, on 29 July 1968 that visited the same rooftop in San Francisco, California, for seven consecutive winters, 26 January 1970 to 15 January 1978 (Binford pers. obs.). Also, this species has lived to the age of 32 and has an average life expectancy of 13.5 years (Verbeek 1993). The effect of these two attributes may have changed in recent years. As the number of inland vagrants increases, so does the likelihood that some will be philopatric, and the longer a philopatric individual lives, the greater its chances of being joined by other birds to form a population. We do not know if philopatry is occurring inland, but the presence of a few adults there suggests it is. Also, Glaucous-winged Gulls presumably are more likely to succeed in returning to localities closer to the coast, and in fact six of the eight adults, as well as both third-year birds, were in Alberta and Idaho.

How then did population growth, habitat alteration, philopatry, and longevity affect the Glaucous-winged Gull? Although inland vagrancy has always occurred, prior to about 1971 fewer vagrants originated from the then smaller coastal breeding colonies; those individuals that ventured inland found little suitable habitat to sustain them and either retreated quickly or perished before they could be detected by the scant force of capable observers. More recently, however, growth in the coastal breeding populations, and perhaps the establishment of new breeding colonies along the Columbia River, resulted in more individuals with nomadic tendencies, and population pressures stimulated a greater percentage of these to disperse inland. These pioneers found new and improved inland habitats provided by dumps, reservoirs, and hydroelectric dam effluents, which allowed them to remain and, with recruitment fostered by philopatry and longevity, form small winter populations more easily discovered by the larger army of observers. Improved coverage has produced more records but has also masked the effects of a "natural" process that has resulted in an increase in the actual number of birds.

SUMMARY

The Glaucous-winged Gull is expanding its winter range east into interior states and provinces (97 acceptable records) as well as to inland localities in coastal states and provinces (many records). This expansion seems due to both slow diffusion along the Columbia River system into areas (eastern Washington, adjacent Oregon, and northern Idaho) nearest the coastal breeding population, as well as areas (Central Valley and Salton Sea of California) close to the coastal wintering population, and jump-dispersal

directly over inhospitable mountain ranges to more distant regions (eastern British Columbia and Alberta, Saskatchewan, Manitoba, southern Idaho, Montana, Colorado, Oklahoma, Illinois, Utah, Nevada, Arizona, and New Mexico). Both types of movement occurred in the past (1912, 1950s, 1960s), but because of the scarcity of adequate inland habitat, birds did not remain and hence were less detectable. Newly available suitable habitat in the form of reservoirs, hydroelectric dams, and large garbage dumps has been encountered by recent birds, allowing them to remain and thus be more detectable. A burgeoning breeding population on the coast has resulted in more repeated inland occurrence starting about 1971 and especially during winter 1988–89. Improved coverage by observers can account for only some of this increase and has masked the effects of "natural" factors. Repeated vagrancy has resulted in recruitment, probably fostered by philopatry and longevity, producing local winter populations that are small but more or less regular in northwestern Sonora, the Central Valley and Salton Sea of California, eastern Washington, north-central Oregon, northern Idaho, Utah, and Nevada. Winter temporal distribution inland is similar to that along the California coast, with some birds arriving as early as mid September but most from late October through mid December, leaving from late February through early March, and straggling into May; some continue to wander in midwinter. There are nonbreeding summer records for Alberta, Manitoba, interior California, Colorado, and New Mexico, although most winter visitors inland apparently summer on the coast. Starting about 1977 a small breeding population established itself along the Columbia River in eastern Washington and Oregon. These last two states, which are nearest the core breeding population on the Pacific coast, have received the most birds and thus were the first to support new inland wintering and breeding centers.

To monitor further expansion or contraction of the Glaucous-winged Gull's range, observers are urged to document and publish all far-inland sightings.

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APPENDIX. Records of the Glaucous-winged Gull from interior states and provinces of North America through 1993.

Because most records have not received formal committee review and many lack detailed documentation, we cannot vouch for their validity. Some, especially from earlier years, might have been of other species or hybrids. All, however, have received screening by at least one authority, usually the appropriate *American Birds* regional editor. Possibly, some records we treat as separate pertain to the same individual bird seen the same season (possibly at different localities) or returning in subsequent years. On the other hand, we or others have questioned certain records that may in fact be valid; for completeness, we list these in brackets, but have not used them to formulate statements in the text.

Records are listed and numbered chronologically within each state or province. Each individual bird is considered one "record." Information, if known, includes, in order of presentation, inclusive dates of occurrence (all years are in the 20th century), locality, number of individuals and their ages, photographic (published photos are in the cited publications), specimen, or banding documentation (all records are sight records unless otherwise noted), habitat, comments, and citations. Some "in litt." citations follow the name of the region.

Abbreviations. [ ], record invalid, or possibly valid but not used by us in text; *, record accepted by the appropriate state records committee, an extant specimen identified by an ornithologist, or a banding record; AB, *American Birds*; ad, adult; AFN, *Audubon Field Notes*; im, immature; mi., miles; MSB, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM; NASFN, *National*

Audubon Society Field Notes; res, reservoir; UMMZ, University of Michigan Museum of Zoology, Ann Arbor, MI; USNM, United States National Museum of Natural History, Washington, DC.

ALBERTA (all M. Harrison and P. Sherrington in litt.): [before 1936; near Calgary; 1 im; specimen, since lost (Weseloh and Lang 1973)]. (*1) mid Sep 58; Bear Lake, northwest of Grande Prairie; 1 2nd-yr; lake; mounted specimen (Salt 1966). (*2) 11 Aug 59; Bear Lake, northwest of Grand Prairie; 1 3rd-yr; lake; mounted specimen; the statement that this was one of 10–12 present here in fall 1959 is not well supported (Salt 1966). (*3) 15 Apr 60; Therien Lake southwest of St. Paul; 1 1st-yr; lake; banded (597-56837) on Christie Islet, south of Anvil Island, Howe Sound, British Columbia 19 Jul 59 and found alive and released at Therien Lake; date of recovery sometimes given incorrectly as 2 Jun 60 (Merilees 1961). (4) 28 Sep 66; Valleyview garbage dump; 1 ad; dump (Stirling 1967). (5) 3–4 May 72; Forest Lawn Sanitary Landfill, Calgary; 1 ad; dump; unpublished photographs (AB 26:776; Weseloh and Lang 1973). (6) 2 Oct 76; Legal; 1 im (Pinel et al. 1991). (7) 5 Apr 80; along Bow River, Calgary; 1 2nd-yr; river (AB 34:788; Pinel et al. 1991). (8) 6–21 Aug 83; Namaka Lake, about 10 mi. SE of Strathmore; 1 im (AB 38:215). (9) 9 May 84; along Bow River, Calgary; 1 1st-yr; river (AB 38:926). (10) 3–10 Nov 84; along Bow River, Calgary; 1 1st-yr; river (AB 39:68). (11) 17 Apr 85; along Bow River, Calgary; 1 im; river (AB 39:316). (12) 6–14 Nov 88; along Bow River, Calgary; 1 im; river; unpublished photos (Dickson 1989). (13) 3 Apr 90; along Bow River, Calgary; 1; river (AB 44:446). (14) 21 Mar 92; along Bow River Calgary; 1 1st-yr; river; unpublished photos (AB 46:438–439).

ARIZONA (all J. Witzeman in litt.): (*1) 4–24 Feb 54; Lake National Wildlife Refuge, Bill Williams Arm, lower Lake Havasu; 1 1st-yr; res; female specimen (USNM 481196) (AFN 8:263; Monson and Phillips 1981; R. L. Zusi in litt.). (*2) 17 Nov 56; 8 mi. above Imperial Dam and 1 mi. below Yuma Wash on Imperial National Wildlife Refuge; 1 1st-yr; river; unsexed specimen (University of Arizona, Tucson, 4913) (AFN 11:48; Monson and Phillips 1981; T. R. Huels in litt.). (*3) 12 Dec 74–18 Feb 75; below Davis Dam; 1 1st-yr; river; also recorded in Nevada (AB 29:725). (*4) all winter 75–76; below Davis Dam; 1 2nd-yr; river; also recorded in Nevada (AB 30:750). (*5) 30 Oct 81; Lake Havasu City; 1 1st-yr; res (AB 36:204).

COLORADO (all B. Prather in litt.): [21 Oct 56; Marston Lake; 1 im; lake; said to be a new species for Colorado; not reviewed by state records committee, as no documentation available (AFN 11:36)]. [24 Nov 56; South Platte River in Denver; 1; river; not reviewed by state records committee, as no documentation available (AFN 11:36)]. (*1) 24–25 Jul 81; Antero Reservoir near Hartsell; 1 1st-yr; res. (*2) 31 Mar–6 Apr 89; Julesburg Reservoir west of Julesburg; 1 1st-yr; res (AB 43:515). (*3) 11–19 Apr 89; Cherry Creek Reservoir, Denver area; 1 2nd-yr; res; published photo (AB 43:515, 516). (*4) 1 May 90; Cherry Creek Reservoir, Denver area; 1 2nd-yr, molting; res. (*5) 1 Mar–1 Apr 92; Cherry Creek Reservoir, Denver area; 1 1st-yr; res (AB 46:455).

IDAHO: (1) 17–23 Feb 63; Spokane River, Coeur d'Alene; 1 im; river; unpublished photo (J. Acton) (AFN 17:344; Burleigh 1971; LaFave 1965; Weber 1981; S. H. Sturts in litt.). (2) 1 Jan 65; Coeur d'Alene Landfill (Ramsey Rd.); 1; dump (AFN 19:403; S. H. Sturts in litt.). (3) 16 Feb–8 Mar 75; Spokane River and Cougar Bay, Coeur d'Alene; 1 im; river and lake; possibly two different individuals (AB 29:718; S. H. Sturts in litt.). (4) 4 Dec 76; Spokane River, Coeur d'Alene; 1 1st -yr; river (S. H. Sturts in litt.). (5) 29 Jan–5 Feb 77; Spokane River and Coeur d'Alene Landfill (Ramsey Rd.); 1; river and dump (S. H. Sturts in litt.). (6) 28 Dec 77; Coeur d'Alene area; 1 ad (AB 32:378; Weber 1981; S. H. Sturts in litt.). (7) 17 Feb 78; Nampa; 1 (AB 32:378; Taylor and Trost 1987; Weber 1981). (8–10) 14 Feb 87; Cougar Bay.

Coeur d'Alene Lake; 1 ad, 1 1st-yr, 1 3rd-yr; lake (AB 41:306; C. H. Trost and S. H. Sturts in litt.). (11) 2–7 Jan 89: Coeur d'Alene Landfill (Ramsey Rd.); 1 1st-yr; dump (AB 43-343; C. H. Trost and S. H. Sturts in litt.). (12) 4 Nov 89; Wolf Lodge Bay, Coeur d'Alene Lake; 1 ad; lake (AB 44:129; S. H. Sturts in litt.). (13) 1 Jan 90; Coeur d'Alene Landfill (Ramsey Rd.); 1 1st-yr; dump (S. H. Sturts in litt.). (14) 13 Dec 90; Coeur d'Alene area; 1 (AB 45:295; C. H. Trost and S. H. Sturts in litt.). (15) 1 Dec 91: Coeur d'Alene Landfill (Ramsey Rd.); 1 1st-yr; dump (AB 46:291; C. H. Trost and S. H. Sturts in litt.). (16) 4 Jan 92; Boise; 1 1st-yr (AB 46:291; C. H. Trost in litt.). (17) 18 Nov 92–8 Feb 93; Coeur d'Alene Landfill (Ramsey Rd.); 1 1st-yr; dump (AB 47:122, 279; S. H. Sturts in litt.). (18) 26 Oct 93; near dam in Willow Bay on American Falls Reservoir; 1 ad; res (NASFN 48:131; C. H. Trost in litt.). (19) 30 Oct–11 Nov 93; Coeur d'Alene Landfill (Fighting Creek); 1 1st-yr; dump; unpublished photos; possibly two different individuals (NASFN 48:131, 229; C. H. Trost and S. H. Sturts in litt.). (20) 17 Dec 93; Coeur d'Alene Landfill (Fighting Creek); 1 2nd-yr; dump (NASFN 48:229; S. H. Sturts in litt.). (21) 17 Dec 93–16 Jan 94; Coeur d'Alene Landfill (Fighting Creek); 1 2nd-yr; dump (NASFN 48:229; S. H. Sturts in litt.). (22–23) 25 Jan 94; Colburn (Bonner Co.) Landfill; 1 1st-yr and 1 unknown; dump (NASFN 48:229; S. H. Sturts in litt.).

ILLINOIS: [18–25 Feb 89; Peoria area; 1 ad; river; under review by state records committee]. (*1) 27 Nov–12 Dec 92; Chicago; 1 2nd-yr; two rivers and two dumps; video and published photos (AB 47:101–102, 169; Johnson et al. 1995). [27–28 Feb 93; Peoria Lock and Dam; 1 3rd-yr; river; under review by state records committee (AB 47:263–264)]. [19–20 Feb 93; Lake Decatur; 1 3rd-yr; lake at warm-water outlet; under review by state records committee (AB 47:263–264)].

MANITOBA: (*1) 1 Jun 64; Churchill; 1 2nd-yr; female specimen (UMMZ 211531) (Jehl 1974: P. Chu in litt.).

MICHIGAN: [19 Dec 70; St. Joseph; 1; listed as hypothetical by Payne (1983) and rejected by state records committee (Chu 1992)].

MONTANA (all C.M. Carlson in litt.): [1 Jan 55; Great Falls; 1; no description available to state records committee and not included in recent Montana publications (AFN 9:272)]. (*1) 21 Mar–6 Apr 85; Missouri River just below Ft. Peck Dam; 1 1st-yr; river at dam; published photo (AB 44:450). (2) 26 Jan 91; Polson dump near Flathead Lake; 1 1st-yr; dump (AB 45:295). (3) early Nov 91; Polson dump near Flathead Lake; 1 1st-yr; dump (AB 46:125). (*4) 7 Dec 91–18 Apr 92; Missouri River just below Ft. Peck Dam; 1 1st-yr; river at dam; published photo (AB 46:282, 441).

NEVADA: (1–3) 30 Oct 71–27 Feb 72; Las Vegas Bay, Lake Mead; up to 3 1st-yr present during period; res; a fourth bird, collected 11 Feb 72, was a Thayer's Gull (AB 26:101, 639, 888; Alcorn 1988; Lawson 1973; M. V. Mowbray in litt.). (*4) late Jul 72; 1 mi. from east shore of Lake Tahoe near Glenbrook; 1 1st-yr; inland; banded (967-19765) 8 mi. NW of Tofino, Vancouver Island, British Columbia 11 July 1971 (not 1972 as in Alcorn 1988); because bird found as a disarticulated skeleton, recovery date means nothing (Alcorn 1988; Lawson 1973; C.S. Robbins in litt.). (5) Nov, 16–28 Dec 72; Las Vegas Bay, Lake Mead; 1 1st-yr; res (AB 27:648; Alcorn 1988; Lawson 1973; M. V. Mowbray in litt.). (6) 15 Dec 73; Las Vegas Bay, Lake Mead; 1st-yr; res (M. V. Mowbray in litt.). (7–8) 30 Nov 74; Boulder Beach, Lake Mead; 2 1st-yr; res (AB 29:94; Alcorn 1988; Lawson 1977; M. V. Mowbray in litt.). (9) 12–18 Dec 74, 18 Feb 75; below Davis Dam; 1 1st-yr; river; seen also in Arizona (Alcorn 1988; Lawson 1977). (10) 4 Dec 75; Cottonwood Basin, Lake Mojave; 1; res (Alcorn 1988; Lawson 1977). (11) 9–29 Jan 76; below Davis Dam; 1 2nd-yr; published photo; river; seen also in Arizona (Alcorn 1988; Lawson 1977; M. V. Mowbray in litt.). (12) 14 Nov 76; Las Vegas Bay, Lake Mead; 1 1st-yr; res (AB

31:205; Alcorn 1988; Lawson 1977; M. V. Mowbray in litt.). (13–14) 17–22 Jan 78; Las Vegas Bay, Lake Mead; 2 1st-yr; res (AB 32:381; Alcorn 1988; M. V. Mowbray in litt.). [summer 79; Lahontan Reservoir; 7; res; the number of individuals and summer date make us suspect these were worn faded individuals of another species (Alcorn 1988)]. (15) 7 Dec 80–21 Feb 81; Las Vegas Bay, Lake Mead; 1 1st-yr; res (AB 35:322; Alcorn 1988; M. V. Mowbray in litt.). (16) 19 Nov–19 Dec 81; Las Vegas Bay, Lake Mead; 1 1st-yr; res; with #17 on 19 Dec (AB 36:202; Alcorn 1988). (17) 19 Dec 81; Las Vegas Bay, Lake Mead; 1 1st-yr; res; with #16 on 19 Dec (M. V. Mowbray in litt.). (18) 27 Mar 88; Walker Lake; 1; lake (AB 42:468). (19) 19 Dec 88; Las Vegas Bay, Lake Mead; 1 1st-yr; res (M. V. Mowbray in litt.). (20) 24 Nov 90; Lake Mead marina; 1 1st-yr; res (AB 45:133; M. V. Mowbray in litt.). [10 Jan 91; Lake Mead; 1; res; no description and not published in AB (H. E. Kingery in litt.)]. (21) 21 Oct 91; Mud Lake; 1 (AB 46:128). (22) 26 Nov 91–4 Jan 92; Pyramid Lake; 1; res; three other birds at Pyramid Lake during winter 91–92 considered of questionable identity in AB (AB 46:128, 293, 295). (23) 3 May 92; Reno; 1 (AB 46:455). (24) 1 Jan–22 Feb 93; Reno; 1 (H. E. Kingery in litt.). (25) 18 Dec 93–9 Jan 94; Virginia Lake in Reno; 1 2nd-yr; res (L. A. Neel in litt.). (26) 10 Feb 94; Virginia Lake in Reno; 1 1st-yr; res (L. A. Neel in litt.). (27) 11–15 Nov 94; Las Vegas Bay, Lake Mead; 1 1st-yr; res; unpublished photos seen by us (M. Cressman and M. V. Mowbray in litt.). (28) 19 Nov 94; Virginia Lake in Reno; 1st-yr; res (L. A. Neel in litt.).

NEW MEXICO: [10 Jan 54 (not 1 Jan); Lee Ranch, 30 mi. N of Grants; 1 im; flying over land; description too incomplete to eliminate other forms (AFN 8:263; J. P. Hubbard in litt.)]. [31 Dec 55; Roswell; 7; Christmas Bird Count; no details (AFN 10:206; J. P. Hubbard in litt.)]. (*1) 21–24 Jan 90, Caballo Lake, and 7 Feb, 7 Mar 90, Elephant Butte Lake; 1 2nd-yr; both res; two photos (New Mexico Ornithological Society #1990-11A-B) from Caballo Lake, one published; female specimen (MSB 8650); here presumed to be the same bird on all dates (AB 44:306; J. P. Hubbard and R. W. Dickerman in litt.). (*2) 12 Feb–3 Oct 94; Elephant Butte Lake; 1 1st-yr (2nd-yr when collected); res; unpublished photos; male specimen (MSB 18929); a possible Glaucous-winged at Caballo Lake 16 Jan and 6 Feb 94 might have been same bird (NASFN 48:236, 328; J. E. Parmeter and R. W. Dickerman in litt.).

NORTH DAKOTA: [30 Oct 90; below Garrison Dam near Riverdale; 1 3rd-yr or ad; river; 10 unpublished photos; state records committee has made no final disposition but tends toward rejection (D. Buitron and G. Nielsen in litt.)]. [30 Sep–4 Nov 90; Garrison Dam; 1 2nd-yr; not yet reviewed by state records committee (AB 45:121)].

OKLAHOMA: (*1) 15 Feb 12; Capron; 1 ad; unsexed mounted specimen (Northwest State College, Alva, Oklahoma, 0112) (Sutton 1938; G. D. Schnell in litt.).

SASKATCHEWAN: [19 Dec 87; 3 km west of Naicam; 1 ad; described as having yellow eyes and white head, so we consider identity questionable (Jensen 1988, C. S. Houston in litt.)]. (1) 9–16 Nov 91; Gardiner Dam; 1 2nd-yr; res (AB 46:109; C. S. Houston in litt.).

UTAH: (1) 19 Dec 83; Salt Lake City Landfill; 1 1st-yr; dump; unpublished photos used after original identification as Thayer's Gull (M. Tove in litt.). (*2) 20 Nov–19 Dec 84; near Provo Dump and Salt Lake City Landfill; 1 1st-yr; dumps; published photo (AB 39:84; Fischer 1988; M. Tove and D. L. Fischer in litt.). (*3) 7 Dec 84–26 Feb 85; Orem Dump and Salt Lake City Landfill; 1 1st-yr; dumps, unpublished photo (Fischer 1988; M. Tove and D. L. Fischer in litt.). (*4) 19 Jan–4 Feb 85; Salt Lake City Landfill; 1 1st-yr; dump, unpublished photo (Fischer 1988; M. Tove and D. L. Fischer in litt.). (*5) 26 Feb–13 Mar 85; Bountiful Area Refuse Dump, south shore of

Farmington Bay; 1 1st-yr; dump (Fischer 1988; M. Tove and D. L. Fischer in litt.). (*6) 30–31 Mar 85; near Provo Dump; 1 1st-yr; near dump, unpublished photo (AB 39:331; Tove and Fischer 1988; Fischer 1988: M. Tove and D. L. Fischer in litt.). (7) 20 Nov 85; Provo Dump and Salt Lake City Landfill; 1 2nd-yr; dumps (AB 40:147; Fischer 1988; Tove and Fischer 1988). (8) 7–18 Dec 85; Bountiful Area Refuse Dump, south shore of Farmington Bay; 1 1st-yr; dump (AB 40:308; Fischer 1988; M. Tove in litt.). (9) winter 85–86; region of Salt Lake City; 1 1st-yr; dump (AB 40:308; Fischer 1988; Tove and Fischer 1988). (10) winter 85–86; region of Salt Lake City; 1 1st-yr; dump (AB 40:308; Fischer 1988; Tove and Fischer 1988). (11) 10 Nov 89; Logan; 1 1st-yr; sewage ponds; unpublished photos (AB 44:131; L. A. Ryel in litt.). (12) 28 Dec 90; Salt Lake City Landill; 1 ad; dump; unpublished photo (E. Sorensen in litt.). (13–14) winter 1993–94; Salt Lake City Landfill; 2; dump; unpublished videotape (NASFN 48:231).

Accepted 24 August 1995

Glaucous-winged Gull, 11–15 November 1994, Lake Mead Marina, Las Vegas Bay, Lake Mead, Nevada.

Photo by Marian Cressman

CENSUS OF THE INYO CALIFORNIA TOWHEE IN THE EASTERN THIRD OF ITS RANGE

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The Inyo California Towhee (*Pipilo crissalis eremophilus*) is restricted to the southern Argus Mountains in Inyo County, California, on lands administered primarily by the Bureau of Land Management (BLM) and China Lake Naval Air Weapons Station (China Lake NAWS). The population is geographically isolated from other subspecies of *P. crissalis* and differs morphologically from *P. c. carolae* by having (on average) shorter wings, tail (males only), culmen, tarsus, middle toe, and possibly a grayer coloration (van Rossem 1935, Davis 1951, LaBerteaux 1989).

The population of the subspecies appears to be limited by suitable breeding habitat. In the arid Argus Range, Inyo California Towhees breed in or near dense willow thickets associated with springs and forage primarily in surrounding uplands. From observations of 72 adults range-wide during 1978 and 1979, Cord and Jehl (1979) estimated a population of 138 birds. Approximately two-thirds of available breeding habitat lies on China Lake NAWS (LaBerteaux 1994), and most of the remainder lies within or immediately adjacent to the Great Falls Basin Area of Critical Environmental Concern (ACEC), managed by the BLM (BLM 1987). The Inyo California Towhee is listed as threatened by the United States Fish and Wildlife Service (USFWS). Fourteen areas were designated as critical habitat in 1987 (USFWS 1987). Eight of these areas are entirely or partially on lands outside China Lake NAWS.

During 1992, we conducted a census of Inyo California Towhees in the Great Falls Basin ACEC and a privately owned parcel (Indian Joe Canyon) in order to provide a population estimate for the ACEC and to make comparisons with the earlier study. By following Cord's field notes, we repeated surveys at all the locations he visited, excluding those sites on China Lake NAWS, and visited several additional sites that had not been surveyed. In 1994, we examined several drainage basins in the northern Argus Range to search for towhees and determine the presence or absence of additional breeding habitat north of the ACEC. Our study therefore provides census data for virtually all available habitat outside China Lake NAWS, or the eastern approximately one-third of the subspecies' range.

SURVEY AREA

Our 1992 census area extended from the southern boundary of the ACEC (Wilson Canyon) north through Great Falls Basin to North Homewood Canyon, and from the boundary of China Lake NAWS on the west to the base of the Argus Mountains on the east (Figure 1). Four sites (Benko Spring, North Homewood Canyon, North Ruth Spring, and Ruby Spring)

either straddle the border with China Lake NAWS or are just inside the base but are included in this survey. Upland habitat is Mojave desert scrub (Holland 1986), dominated by the Creosote Bush (*Larrea tridentata*) and Burrobush (*Ambrosia dumosa*). Breeding habitat is always associated with a drainage and water source and is typically composed of Arroyo Willow (*Salix lasiolepis*), with lesser amounts of Narrow-leaf Willow (*Salix exigua*), Desert Olive (*Forestiera pubescens*), and Squaw Waterweed (*Baccharis sergiloides*). Elevations at the breeding sites range from 695 to 1433 m. Elevations of the surrounding mountains extend to 2000 m. Annual rainfall averages 74.9 mm (records are from the town of Trona, 9.7 km southeast of the study area).

In 1994, the census area included seven drainage basins north of the ACEC from Bruce Canyon to Darwin Falls. Much of the riparian vegetation on BLM lands in the northern Argus Range is severely degraded. Only Bruce Canyon, Darwin Falls, and a tributary of Water Canyon supported significant riparian vegetation.

METHODS

We identified potential breeding habitat from a review of USGS 7.5′ series maps, the Great Falls Basin ACEC Management Plan (BLM 1987), Cord and Jehl (1978, 1979), and Cord's field notes. Whenever possible, we used existing names to identify survey sites. After an initial reconnaissance, we elected not to survey Christmas Spring, Nadeau (= People's) Spring, and Pothole Spring because they were so badly degraded. Three drainage basins (North Homewood Canyon, Great Falls Basin, and Indian Joe Canyon) contain significant surface and subsurface water, supporting strips of riparian vegetation. We used natural gaps in vegetation to separate these strips into numbered survey sites.

We surveyed 28 sites 27–29 April 1992 and repeated surveys at these sites and visited 16 new sites 26–29 May 1992. Surveys began at sunrise and continued for 5 hours. We spent 1 to 3 hours walking a transect that paralleled each study site, pausing to make observations at suitable overlooks. The minimum of 1 hour at each site was necessary to detect towhees that may have hidden in the dense cover on our approach. We surveyed circular patches of breeding habitat, common around isolated springs, by remaining quietly at appropriate vantage points. Observer position relative to riparian vegetation varied according to the orientation of the willows and terrain. In areas with large amounts of breeding habitat, such as the Great Falls Basin, all three researchers surveyed different stretches of the canyon simultaneously, then compared the times of each observation in order to determine the towhee numbers more accurately. We recorded each detection on a map, number and age (adult or juvenile) of individuals, distance from riparian vegetation, behavioral notes, and microhabitat use. At each water source, we estimated the area of free surface water, flow in gallons per hour, and dimensions of riparian vegetation surrounding each water source. Qualitative descriptions regarding impacts of burros, horses, and human disturbances were recorded at every site. The locations, water-source data, and habitat evaluations are available from the BLM (Laabs et al. 1992) and

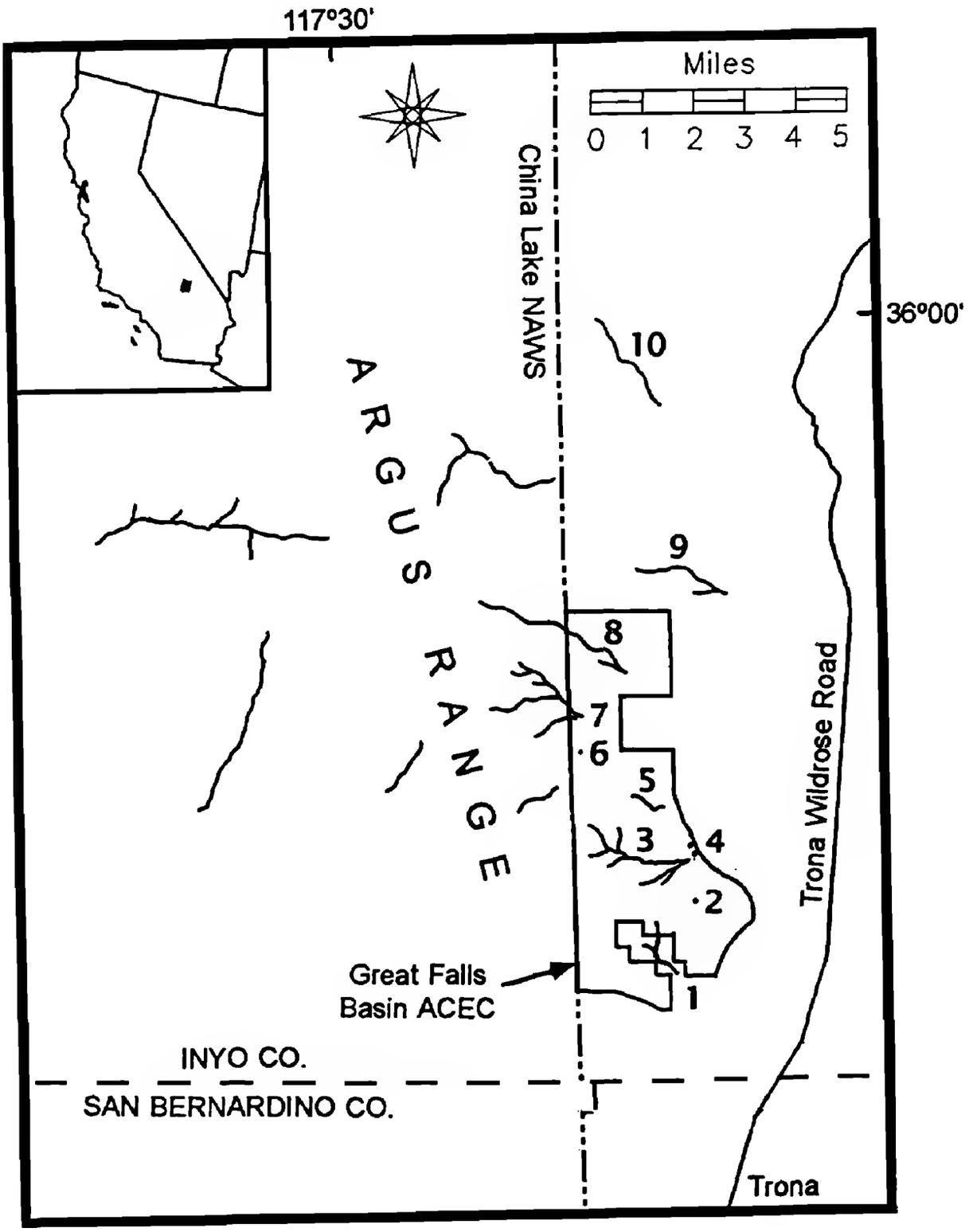

Figure 1. Canyons and isolated springs in which the Inyo California Towhee has been observed. Data from China Lake Naval Air Weapons Station from LaBerteaux (1994). Survey areas from the present study are numbered. 1, Indian Joe Canyon, including Allen Springs; 2, Bainter Spring; 3, Great Falls Basin, including Twin, Orchard, Elliot and Willow springs; 4, Austin and Mumford springs; 5, Mumford Canyon, including Rattlesnake Springs; 6, North Ruth Spring (= South Homewood Canyon); 7, Benko Spring; 8, North Homewood Canyon, including Ruby, Alpha and Bobcat springs; 9, Bruce Canyon, including Cabin, Rock and Dripping springs; 10, tributary of Water Canyon.

are not reported here in detail. Using aerial photographs acquired after our field effort, we were able to confirm that every site within the ACEC with riparian vegetation was visited with the exception of Skull Spring and an unnamed water source located in Great Falls Basin west-southwest of Willow Spring.

From 20 to 22 March 1994, we surveyed portions of seven canyons north of Great Falls Basin ACEC in order to determine the extent of the species' current range. Springs were identified from U.S. Geological Survey 7.5' series maps. We visited sites only outside China Lake NAWS. Each spring that contained appropriate breeding habitat was surveyed by techniques comparable to those used in 1992, except that sites were visited only once and detailed water source data were not gathered. The areas surveyed were Bruce Canyon (four springs), a tributary of Water Canyon (three springs), Shepherd Canyon (two springs), Knight Canyon, Revenue Canyon, Snow Canyon, and Darwin Falls ACEC.

RESULTS

We observed 76 adult Inyo California Towhees in 1992 (Table 1). Thirty-nine of these individuals were observed in Great Falls Basin, 15 in North Homewood Canyon (including Alpha, Bobcat, and Ruby springs), and 12 in Indian Joe Canyon (including Allen Springs). The remainder were observed at isolated springs. Fifteen pairs of towhees were observed with 32 juveniles, averaging 2.1 per pair. At 19 sites surveyed previously, we observed 41 birds at locations where Cord and Jehl (1979) observed 36. Thirty-five towhees were observed at sites within the ACEC that were not surveyed by Cord.

The 1994 surveys resulted in sightings of seven Inyo California Towhees in two canyons that to our knowledge have not been previously surveyed. Towhees were observed at Dripping Spring, Rock Spring, and Cabin Spring in Bruce Canyon, and at an unnamed spring in a tributary of Water Canyon. Additional unoccupied appropriate habitat was present in the tributary of Water Canyon. Springs in Shepherd, Knight, Revenue, and Snow canyons contained little or no riparian vegetation and were heavily disturbed by burros and mining. No towhees were observed in any of these areas. None were seen at Darwin Falls, a site with extensive riparian vegetation 38 km north of the known breeding range.

Figure 1 presents the locations of all drainage basins and isolated springs in which Inyo California Towhees were observed during our census. In addition, locations summarized by LaBerteaux (1994) are presented for the remainder of the range on China Lake NAWS.

DISCUSSION

Cord and Jehl (1979) estimated the Inyo California Towhee's population on the basis of the following assumptions: each nesting pair requires a minimum of 4000 square feet of riparian habitat; a minimum of 450 feet of riparian habitat is necessary between adjacent pairs along a linear corridor; and circular patches of riparian vegetation, especially around isolated

Table 1 Estimates and Censuses of Adult Inyo California Towhees in 1978–79 versus 1992–94

Site	Census 1978/79[a]	Estimate 1978/79[a]	Census 1992/94[b]	Estimate 1992/94[b]
Indian Joe Spring	2	2	2	2
Bainter Spring	0	0	1	2
Great Falls Basin (Sites 1–13)	27	36	31	32
South Homewood Canyon (= N. Ruth Spring)	2	2	1	2
Benko Spring	1	2	1	2
North Homewood Canyon (near Ruby Spring)	2	2	4	4
Ruby Spring	2	2	1	2
Indian Joe Canyon	NS[c]	NS	8	8
Allen Springs	NS	NS	2	2
Twin Springs (Great Falls Basin)	NS	NS	2	2
Elliot Spring (Great Falls Basin)	NS	NS	2	2
Orchard Spring (Great Falls Basin)	NS	NS	2	2
Willow Spring (Great Falls Basin)	NS	NS	2	2
Austin Spring	NS	NS	2	2
Mumford Springs	NS	NS	0	0
Mumford Canyon (incl. Rattlesnake Spring)	NS	NS	5	6
North Homewood Canyon (south portion)	NS	NS	6	6
Alpha and Bobcat springs	NS	NS	4	4
Bruce Canyon	NS	NS	6	8
Water Canyon	NS	NS	1	2

[a]Data from Cord and Jehl (1978, 1979).
[b]All census data collected in 1992 except in Bruce and Water canyons, which were visited in 1994.
[c]NS, not surveyed.

springs, support only one pair because the greatest linear distance at these sites is typically less than 450 feet. In general, we concur with these assumptions. However, like LaBerteaux (1989), we observed pairs, some of which had young, in riparian areas of less than 4000 square feet. Cord and Jehl (1979) and LaBerteaux (1989) noted that the size and configuration of riparian patches determined the size of territories maintained by Inyo California Towhees and therefore influence population size. Circular springs isolated from other riparian areas typically supported a single pair of towhees. Even a small gap along a linear corridor of riparian vegetation appeared sufficient to enable two pairs to maintain neighboring territories along a segment that might support only one pair if it were contiguous.

Results from the 1978–79 census are similar to the results of our census at those sites surveyed in both studies (Table 1). Most sites supported a similar number of pairs in both surveys, and relative abundance at these sites does not appear to have changed appreciably. The most significant differ-

ence was the number of juveniles detected in 1979 (none) compared with 1992 (32). It is possible that Cord's surveys were not conducted at a time optimal for detecting fledglings. It is also possible that nesting success was high in 1992 as a result of vigorous vegetation and insect production following above-average winter rainfall.

We observed 83 towhees in 1992 and 1994. From the distribution of available breeding habitat and these census data, we estimate that there is sufficient habitat to support 46 pairs of towhees outside the China Lake NAWS between Indian Joe Canyon and the tributary of Water Canyon. Our estimate assumes that single birds observed at nine sites containing breeding habitat in 1992 and 1994 represent one pair. North of Water Canyon, outside China Lake NAWS, springs have been severely degraded by human uses and appropriate riparian habitat no longer exists. Our observations suggest that virtually all suitable habitat within the range of the Inyo California Towhee is occupied. Towhees inhabiting suboptimal sites may not successfully rear offspring yet may still be able to disperse into higher-quality territories when they become vacant.

The population estimated by Cord and Jehl (1979) in the area in which we estimate 92 towhees (46 pairs) was 46 towhees (23 pairs). The difference does not appear to reflect an increase in population size. Rather, the difference may result from the previous estimate's not considering sites less than 4000 square feet to be large enough to support towhees and/or from an underestimate of the overall amount of riparian vegetation. We observed towhees at 15 locations that had not been surveyed previously. Several of these sites were small or in canyons that Cord did not visit. Therefore, the population range-wide may be higher than the estimate of 138 birds suggested by Cord and Jehl (1979). Regardless, the population is very small and susceptible to a number of threats.

Riparian habitat within the range of the towhee has been degraded at several sites, including some within the critical habitat and the ACEC. We noted burro sign at virtually every site visited. Extensive burro damage was observed in the upland areas of Great Falls Basin and throughout Water Canyon. Towhee breeding sites at which water diversion was noted were Bainter Spring, Alpha Spring, Indian Joe Canyon, and North Ruth Spring. Exotic vegetation has replaced native riparian plants at certain isolated springs, including Austin Spring. These impacts are inconsistent with a conservation agenda for the threatened Inyo California Towhee. The recent acquisition of Indian Joe Canyon by the state of California and designation of portions of Water and Bruce canyons as wilderness by Congress has improved the habitat protection to some degree.

SUMMARY

During a census of the Inyo California Towhee conducted in 1992 and 1994 throughout lands east of the China Lake NAWS, we observed 83 towhees. From this, we estimate a population of 92 towhees (46 pairs) between Indian Joe Canyon and a tributary of Water Canyon, in an area constituting approximately one-third of the range of the subspecies. North

of Water Canyon, riparian habitat has been severely degraded and no towhees were observed. A previous population estimate (Cord and Jehl 1979) appears to have underestimated towhee numbers on lands east of China Lake NAWS. We observed towhees in several small (< 4000 square feet) riparian areas, as well as in canyons that had not been previously surveyed. Threats to the riparian habitat on which the towhee depends include disturbance by feral burros and horses, proliferation of non-native riparian species, and diversion of surface water.

ACKNOWLEDGMENTS

The 1992 field study was funded by contract B950-C200-18 from the Bureau of Land Management. We thank Bob Parker and Kathryn O'Conner of the Ridgecrest Resource Area of the BLM for their assistance. Kathryn Buescher, Sara Higgins, and John Pofahl assisted with the field effort in 1994. Michael Patten, Denise LaBerteaux, and Philip Unitt provided comments on the manuscript, greatly improving its accuracy and readability. Mike Pantoja assisted with preparation of the map.

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NOTES

FIRST RECORD OF THE GRAY SILKY-FLYCATCHER FROM BAJA CALIFORNIA, MEXICO

FEDERICO COTA-CAMPBELL and GORGONIO RUIZ-CAMPOS, Laboratorio de Vertebrados, Facultad de Ciencias, Universidad Autónoma de Baja California, Apdo. Postal 1653, Ensenada, Baja California 22800, México (U.S. mailing address: P. O. Box 189003-064, Coronado, California 92178)

On 7 October 1994 we collected an adult female Gray Silky-Flycatcher (*Ptilogonys cinereus*) at Arroyo El Medano, also called Arroyo Cantamar, about 1.5 km northeast of the town of Cantamar, Baja California, Mexico (32° 14′ 10″ N, 116° 54′ 40″ W, elevation 15 m). This species has not been previously recorded in Baja California (Grinnell 1928, Wilbur 1987), and the nearest known resident population is located in southeastern Sonora (28° 20′ N, Phillips 1991) approximately 750 km from the site reported here.

The Gray Silky-Flycatcher's known distribution extends along the highlands (elevation 1000–3500 meters) from the northern Mexican states of Sonora, Sinaloa, Chihuahua (southern), Durango (western), Zacatecas, Nuevo León (central), and Tamaulipas (southwestern) south to central Guatemala (Friedmann et al. 1957, Edwards 1972, A.O.U. 1983, Howell and Webb 1995). The species has been recorded as a winter visitor near Alamos, Sonora, and at several coastal localities near San Blas, Nayarit (Phillips 1991). If the species occurs naturally in northern Baja California it is only as a rare vagrant.

Edwards (1972), A.O.U. (1983), and Howell and Webb (1995) noted that *P. cinereus* is a resident species, often seen in small flocks in mountain forests of pine, oak, and juniper, rarely in arid scrub. Like waxwings and the Phainopepla (*Phainopepla nitens*), it perches upright on upper branches, feeding on small fruits, especially mistletoe. Our specimen of *Ptilogonys cinereus* was collected perching on a Western Sycamore (*Platanus racemosa*) parasitized by Big-leaf Mistletoe (*Phoradendron tomentosum* var. *macrophyllum*). Other representative riparian plants around the collecting site are the Coast Live Oak (*Quercus agrifolia*) and Mulefat (*Baccharis salicifolia*) (Wiggins 1980).

We identified the specimen as a Gray Silky-Flycatcher (Figure 1) by the following diagnostic combination of features (Ridgway 1904, Blake 1953, Edwards 1972): occipital crest, white eye-ring, wings and tail black, lateral rectrices with a broad white median patch, belly white, crissum yellow, and head, throat, and back brownish gray. Measurements of the specimen are total length 215 mm, wingspan 250 mm, and tail length 100 mm. Our specimen (UABC 667) is deposited in the Bird Collection, Laboratorio de Vertebrados, Facultad de Ciencias, Universidad Autónoma de Baja California, Ensenada.

The specimen did not show evidence of feather wear, broken claws, or injuries at the base of the bill, features that would betray the possibility of our specimen's having been an escaped cage bird. We interviewed several bird dealers in Ensenada and Tijuana to determine if this species is offered for sale as a pet. They told us that it has not been seen as a cage bird in these cities. Also, this frugivorous species is not commonly kept caged because it is extremely hard to feed (cf. Lasley and Pincelli 1986).

Gray Silky-Flycatchers have been observed on several occasions in Alta California, but they have been considered escaped cage birds (P. Unitt pers. comm.). In addition, this species has been recorded, reportedly as a natural vagrant, at Patagonia, near Nogales, Arizona (17 July 1980, Lasley and Pincelli 1986) and Laguna Atascosa National Wildlife Refuge, Cameron County, Texas (31 October 1985, DeBenedictis 1991). Most vagrant Mexican landbirds in Alta California characteristically show up in autumn or winter (Lasley and Pincelli 1986). Similarly, our *Ptilogonys cinereus* was collected in the autumn and was probably a natural vagrant.

We thank Kurt F. Campbell and Philip Unitt for their helpful comments on the manuscript.

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Figure 1. Adult female (total length 215 mm) Gray Silky-Flycatcher (*Ptilogonys cinereus*) collected at Arroyo El Medano, Baja California, Mexico, 7 October 1994.

Photo by Gorgonio Ruiz-Campos

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The pantropical Masked Booby (*Sula dactylatra*) is one of the most pelagic of the Pelecaniformes. Off the Pacific coast of Mexico, the Masked Booby breeds on Isla Clarión and Isla San Benedicto in the Revillagigedo group (Everett and Anderson 1991) and on Clipperton Atoll (A. O. U. 1983). It has been reported breeding at Las Rocas Alijos (24° 57' N, 115° 45' W) since 1925 (Hanna 1926, McLellan 1926) with a current breeding population of about 50 pairs (Pitman 1985). Only three sighting reports exist for the Pacific coast of Baja California, of one juvenile on 23 April 1988 at Islas Los Coronados, Baja California (Everett and Teresa 1988), and single adults on 18 December 1968 and 30 November 1980, both at Cabo San Lucas, Baja California Sur (Wilbur 1987).

Here we report five additional records, including one for the Gulf of California, three for the Pacific coast of Baja California, and one for Isla Guadalupe. Amador and Palacios saw an adult Masked Booby loafing with a few Magnificent Frigatebirds (*Fregata magnificens*) at Punta Diablo, Bahía de La Paz, southwestern Gulf of California, on 11 June 1986. The bird was wearing adult plumage, with an all-white head, extensive black facial skin, black tail, black tips to the longer scapulars, and more extensive black on the secondaries. The bill was yellow, but at the time we did not note whether it was greenish yellow (subspecies *californica*) or more pinkish orange (subspecies *granti*) (Patten and Erickson 1994). We eliminated an adult Red-footed Booby (*Sula sula*) by the bird's large size, grayish feet, and black scapulars. The only two previous reports of Masked Boobies inside the Gulf of California are from the central portion of the Gulf [May 1991, one 48 km west of Isla Lobos, no further details (Gallo 1994); June 1992, one *granti*, D. Breese and B. Tershy in Howell and Webb (1995)].

On 13 May 1985 and 12 November 1986 L. Moreno (pers. comm.) observed single adult Masked Boobies at Punta Lengua (24° 22' 58" N, 111° 41' 30" W), an important Brown Pelican (*Pelecanus occidentalis*) and Double-crested Cormorant (*Phalacrocorax auritus*) roosting site near the southern end of Isla Santa Margarita. The bird sighted in 1986 and closely photographed by Moreno at Isla Santa Margarita was wearing incomplete adult plumage, with an all-white head, black tips to longer scapulars, black tail, and black secondaries, but the rump was still brown. The Masked Booby gradually acquires adult plumage over two years, the rump staying brown longest. The bill of this bird was decidedly greenish yellow, implying the Mexican coastal subspecies *S. d. californica* (Patten and Erickson 1994).

On 4 February 1994, Amador observed an adult Masked Booby in flight approximately 2 km southwest of Isla Santa Margarita (24° 25' N, 111° 25' W). The black scapulars and lack of carpal patch on the underwing could be noted, but the exact bill color could not be discerned.

On 20 January 1994, Guillén saw an adult on Isla Guadalupe (29° N, 118° 17' W) with an all-white head, black tips to longer scapulars and more extensive black in secondaries, black tail, grayish feet, and greenish-yellow bill. The bird rested on a small fishing boat on Campamento Oeste and walked and perched around the fishermen's

camp. According to the local inhabitants this individual arrived in early December and remained there at least until 12 February 1994, when our activities there ceased. Presumably the same bird was still present on 9 April 1994, when Pyle et al. (1994) reported it. From the bill color and plumage characters, these authors identified the bird as *S. d. californica*.

Currently, there are five accepted records of the Masked Booby for Alta California: (1) one adult sighted 35 km southwest of San Clemente Island, on 10 January 1977 (Lewis and Tyler 1978); (2) an immature photographed 2 miles west of Point Lobos, Monterey County, on 5 April 1990 (Patten and Erickson 1994); (3) an adult photographed at the mouth of the Salinas River, Monterey County, 18–22 June 1992; (4) one at Point Mugu, Ventura County, on 20 June 1992; and (5) one at Newport Beach, Orange County. on 30 June 1992 (M. A. Patten pers. comm.).

Interestingly, all the sightings north of Las Rocas Alijos, except that in 1990, have been made during northern protrusions of warm water during periods of El Niño Southern Oscillation (ENSO) (sensu Quinn 1978). It is well known that the distributions of seabirds shift with movements of their preferred water types (see Ainley et al. 1986). The dispersals of the Masked Booby to Isla Guadalupe and to Alta California might be related to the 1991–93 ENSO. ENSO events likely expand the distribution of this otherwise more tropical seabird.

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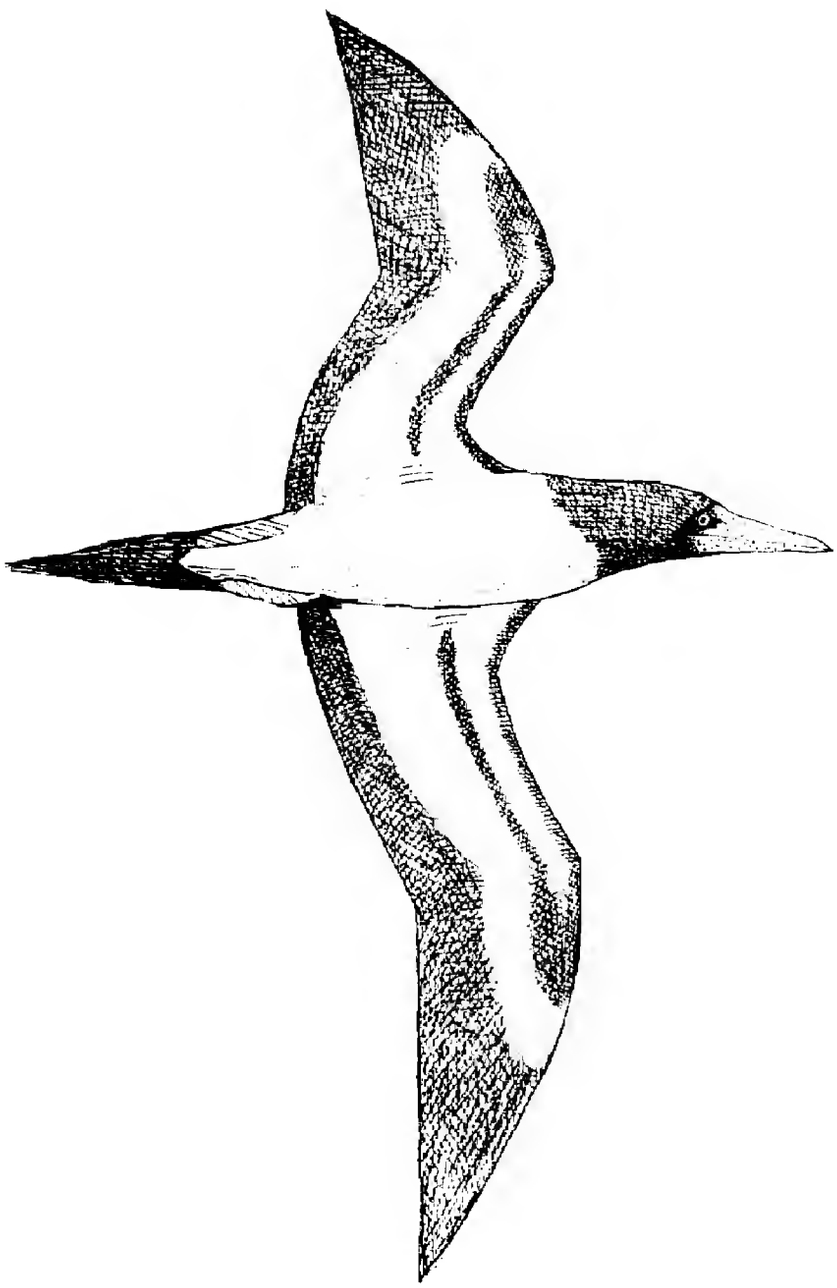

Masked Booby *Sketch by Sophie Webb*

SABINE'S GULL FLOCK RESPONSE TO PEREGRINE FALCON

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Information on the breeding biology of Sabine's Gulls (*Xema sabini*) is very limited. Parmelee et al. (1967) detailed the species' life history on Victoria Island, northern Canada. Abraham (1986) quantified nesting and brood-rearing chronology and success and noted a strong relationship between nesting Sabine's Gulls and Arctic Terns (*Sterna paradisaea*), while Abraham and Ankney (1984) described partitioning of food resources by Sabine's Gulls and Arctic Terns.

Larson (1960) suggested that one reason for the gull/tern association is that Sabine's Gulls rely on the aggressive defense behavior of Arctic Terns. Later, Brown et al. (1967) discussed the adaptive significance of some behaviors in relation to an absence of communal defenses. Descriptions of Sabine's Gull's responses to predators at colonies are few and sometimes inconsistent. For example, Brown et al. (1967) described distraction displays and aerial attacks from below as defenses against Glaucous Gulls (*Larus hyperboreus*), Parasitic Jaegers (*Stercorarius parasiticus*), and ground intruders but specifically noted a lack of communal defense. Parmelee et al. (1967) also described aerial attacks, ground displays, and defecation by isolated pairs as responses to Snowy Owls (*Nyctea scandiaca*) and ground intruders. Abraham (1986) observed distraction displays and, where colonies were dense, Sabine's Gulls' mobbing Parasitic Jaegers and Herring Gulls (*L. argentatus*). Peregrine Falcons (*Falco peregrinus*) prey on Sabine's Gulls, and one eyrie in arctic Canada contained mostly Sabine's Gull remains (Parmelee et al. 1967).

On 11 August 1988 I observed a flock of Sabine's Gulls respond to a Peregrine Falcon near a colony at the mouth of the Colville River, on the arctic coast of Alaska. The Sabine's Gull flock consisted of approximately 25 adults and 40 recently fledged young. Prior to the appearance of the Peregrine Falcon, the Sabine's Gulls were in diverse activities in the air, on the ground, and on the surface of a 33-ha lake. When the falcon appeared, all the juvenile gulls massed in a flock directly above it, while the adults and one adult Arctic Tern formed a flock between the juveniles and the Peregrine Falcon (Figure 1). Some adult Sabine's Gulls may have been in the flock with the juveniles. The adult gulls and the Arctic Tern took individual turns swooping at the falcon and then returning to the flock. The Peregrine Falcon attempted to attack the flock of adults but it never had the opportunity to attack the flock of juveniles. The Peregrine Falcon isolated one adult Sabine's Gull and stooped at it four times. The gull twice escaped by flying up at the falcon in a counter-attack, then twice escaped the falcon by plummeting toward the lake. The falcon then departed the area. I did not time this encounter, but it lasted only a few minutes.

This behavior represented a successful antipredator deterrence, but it is probably used during only a brief period of the annual cycle, between the time the young fledge and fall migration commences. My observation supports Abraham's (1986) findings of predator mobbing, even though others (e. g., Brown et al. 1967) assert that communal defense is absent in Sabine's Gulls. Abraham (1986) reviewed two explanations for the association between nesting Sabine's Gulls and Arctic Terns: a reliance by Sabine's Gulls on the aggression of Arctic Terns for colony defense, and coincidence. I believe there is a third, more likely explanation for the association between the two species: a mutually beneficial enhancement of colony defense.

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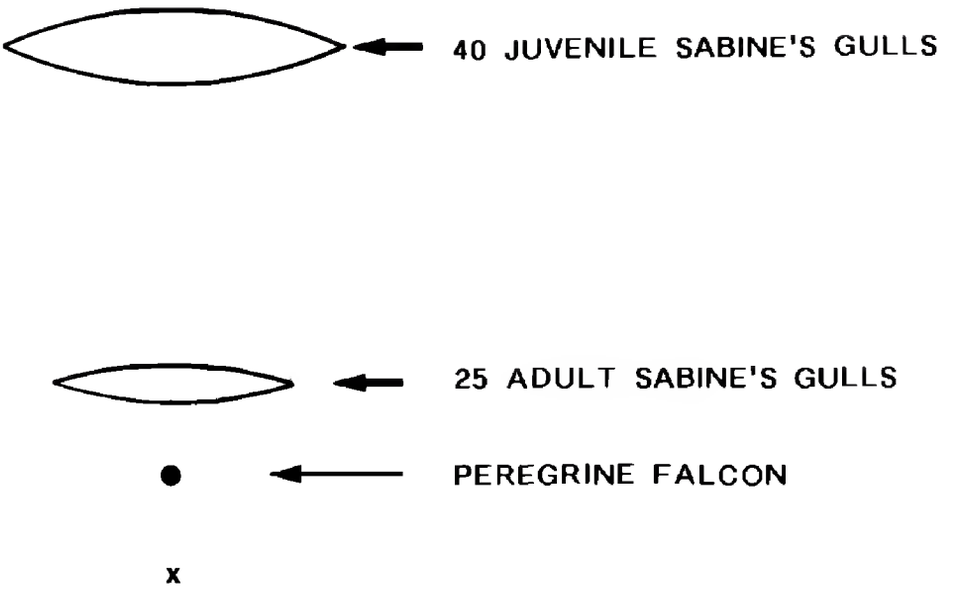

Figure 1. Locations of flocks of juvenile and adult Sabine's Gulls in relation to a Peregrine Falcon. "X" indicates the subsequent position of an adult gull that was isolated from the flock.

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FIFTY YEARS AFTER GRINNELL AND MILLER: ORGANIZING FOR A BETTER FUTURE

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Patten et al. (1995) offered a stimulating overview of the current state of field ornithology in California since the publication of Grinnell and Miller's (1944) classic *The Distribution of the Birds of California*. Nevertheless, we feel compelled to expand upon their views on the level of knowledge accumulated since 1944 and the direction we see field ornithology in California moving most profitably. Beyond the great addition to the list of birds recorded in California and to the knowledge of vagrancy, Patten et al. concluded that "our current position in understanding of status and distribution is only marginally ahead of where Grinnell and Miller left us." While the accumulation of knowledge has been uneven across species and regions of the state, we are convinced that avifaunal work has made tremendous strides on many fronts in the last fifty years. What remains to be done, though, is to synthesize this knowledge in a book that updates Grinnell and Miller while at the same time promoting ongoing research in the frontiers of field ornithology.

RECENT ADVANCES

In general, recent advances in the study of nonpasserines have outstripped those for passerines. For example, seabird research in California has dramatically increased our knowledge of the size and location of breeding colonies (Sowls et al. 1980, Carter et al. 1992), breeding biology as affected by varying oceanographic conditions (Ainley and Boekelheide 1990), general patterns of occurrence at sea (Ainley 1976), and the relationships between patterns of abundance, seasonality, and community diversity and the physical characteristics of the ocean (Briggs et al. 1987). Long-term studies of year-to-year variation in the distribution and abundance of seabirds in deep ocean waters off California, collected via the California Cooperative Fisheries Investigations and other programs, are now being prepared for publication (D. Ainley, P. Pyle pers. comm.). A vast body of recent literature also exists on the distribution, habitat needs, breeding biology, and population trends of waterfowl in California (e.g., Heitmeyer et al. 1989). Surveys of all the state's key wetlands have added immeasurably to our understanding of the distribution, habitat needs, and population sizes of migratory shorebirds (Page et al. 1992). Information has been augmented for many species of diurnal raptors (e.g., Binford 1979, Hall et al. 1992) and owls (e.g., Halterman et al. 1989, Bloom 1994). Statewide surveys have been conducted for many other species, particularly

those suffering population declines [e.g., Evens et al. (1991) for the Black Rail (*Laterallus jamaicensis*)].

By contrast, no particular groups of landbirds stand out as having been studied comprehensively in the last fifty years. Nevertheless, detailed work has been conducted on many species in various families. Many of these, of course, have been species considered endangered, threatened, or as of special concern to state and federal agencies [e.g., Harris et al. (1987) for the Willow Flycatcher (*Empidonax traillii*)] or species showing range expansions [e.g., Miller and Green (1987) for the American Pipit (*Anthus rubescens*). Patten et al. did praise the recent breeding-bird-atlas projects in several California counties. Atlas work continues to expand rapidly; as of 1995, atlases have been initiated in 16 of California's 58 counties. Similarly, avifaunal surveys have been published for many of the state's mountain ranges (e.g., Johnson and Cicero 1986, Lentz 1993). Combine these studies with a number of books detailing county or regional avifaunas (e.g., Unitt 1984, Gaines 1988) and the great expansion in our knowledge of California's birds over the last fifty years is clearly evident. While Grinnell and Miller's maps of bird distribution to the subspecific level may still be the best available for the entire state, they covered only 60 breeding species. Even without further atlas work, the data available today, if meticulously compiled, would provide detailed maps for many more of California's breeding, wintering, and migratory species.

We agree with Patten et al. that geographic variation should be an important subject of ornithological investigation. Unfortunately, universities can't afford the time to teach identification skills at either the subspecies or species level, and research curators are disappearing from our natural history museums. These trends are dangerous as we are losing our expertise in analyzing geographic variation at a time when the techniques for such analysis are better than ever and the field of conservation biology cries out for more knowledge to preserve biodiversity at both the morphological and genetic levels.

We concur, though, with Knox's (1994) call for caution and restraint in identifying races in the field or hand. While subspecies can teach us much about migration, the recent advances in color-banding and radio-tagging of birds will surely provide complementary insight into their movements. Without such studies, who would have guessed that some Snowy Plovers (*Charadrius alexandrinus*) move hundreds of miles within one breeding season before nesting a second time (Stenzel et al. 1994), that Cackling Canada Geese (*Branta canadensis minima*) are changing their distribution at staging areas in autumn (Raveling and Zezulak 1992), that Dunlins (*Calidris alpina*) move from the coast of California to the Sacramento Valley after heavy winter rains (Warnock et al. 1995), or that Spotted Owls migrate altitudinally (Laymon 1989)? While they may be a long time coming, further technological advances in such marking techniques are likely to make possible future studies of the movements of even the smallest passerines.

Because Grinnell and Miller, of necessity, painted their abundance and distribution descriptions with broad brush strokes, it is often difficult today to determine whether various species have since changed their range or

abundance, except in extreme cases. Increasing quantification and standardization of data collection now allow some longstanding programs to assess population and range changes with a fair degree of accuracy. Examples of such efforts are the Midwinter Waterfowl Survey of the Pacific flyway (Banks and Springer 1994), for ducks, geese, and swans, the Breeding Bird Survey (Robbins et al. 1986) and Breeding Bird Census (published annually in *Journal of Field Ornithology*), primarily for landbirds, and Christmas Bird Counts (Root 1988, Root and Weckstein 1994), for all species. Although all of these methods have their limitations they are welcome complements to the mostly descriptive efforts prevalent earlier in this century. Efforts to refine methods for monitoring neotropical migratory landbirds are the primary emphasis of the recently established Partners in Flight (Finch and Stangel 1993), Monitoring Avian Productivity and Survivorship (MAPS, DeSante 1992), and BBIRD (Martin 1994) programs. A broad spectrum of papers, both quantitative and descriptive, on population trends of western North American birds has recently been published (Jehl and Johnson 1994). Such efforts would not have been possible at the time of Grinnell and Miller.

INCREASING FIELD WORK, PUBLICATIONS, AND CONSERVATION

Patten et al. also focused on the great increase in the number of field biologists hired by consulting firms since the 1970s, necessitated by the need of development firms, public agencies, and others to comply with environmental laws. While this change has been great, the number of biologists in the field has burgeoned in recent decades from a variety of additional sources as well. Biologists from a host of state and federal agencies gather data on birds, primarily to guide management of our dwindling natural resources. Similarly, a number of private research organizations, environmental advocacy groups, banding stations, and bird observatories now conduct extensive ornithological research. University research on birds in California is no longer confined largely to ornithologists from a few institutions, such as the Museum of Vertebrate Zoology at Berkeley, as it was at the time of Grinnell and Miller. Instead, ornithologists now reside at many universities and colleges and work out of numerous field stations (unfortunately there is a more recent counter trend of universities to not hire ornithologists). Add to all these the amateur birders, perhaps the single largest group, and a virtual army of field workers is active in the state in the 1990s.

Patten et al. bemoaned the large amount of gray literature and unpublished data generated by consulting firms, but this problem is widespread, leaving biologists of many stripes frustrated with their lack of time or resources to publish data in refereed journals (e.g., Bleich 1993). With the current trends of shrinking state and federal budgets and a political climate bent on removing environmental regulations, it will probably be increasingly difficult for many biologists to conduct thorough studies and publish their findings. Patten et al. rightly indicated that professional ornithologists increasingly focus on theoretical and laboratory science at the expense of descriptive ornithology. While fewer biologists conduct avifaunal work,

descriptive ornithology has been embraced by amateurs. While the importance of amateurs to this type of work cannot be overemphasized, certain trends in publications during the era of the amateur are disheartening. Books written by amateurs or targeted at amateur audiences often lack the frequent literature citations that are the hallmark of scientific publications that stand the test of time. Imagine where California ornithology would be today if Grinnell and Miller lacked suitable documentation.

Patten et al. also concluded that "researchers . . . desperately need good field data and solid descriptive ornithology, not the political strife so often associated with conservation efforts." We also strongly support the collection of useful field data, but how useful is it if this information is not presented in the political forums that decide the fate of the remaining wild lands supporting California's amazing bird diversity? A sterling example is the recent decision to save the Mono Lake ecosystem (SCWRCB 1994), where testimony by biologists played a crucial role in protecting the lake's outstanding populations of migratory and breeding birds. If biologists had shied away from the political arena Mono Lake might have gone the way of Owens Lake and Tulare Lake before it, with the only thing left flying from the lakebed being parched alkali dust. Also, without the political attention and the economic resources brought to bear, little research, published or otherwise, would have been conducted at Mono Lake or on such taxa as the Northern Spotted Owl (*Strix occidentalis caurina*) and the California Gnatcatcher (*Polioptila californica*).

ORGANIZING FOR THE FUTURE

Clearly many of the recent advances in our knowledge of California's birdlife have been incremental, as individuals pursue their own studies and agendas. But increasingly professionals and amateurs collaborate to gather data on status and distribution via broad-scale organized studies. Beyond those noted above, these include broad-scale surveys of breeding Tricolored Blackbirds (*Agelaius tricolor*) and wintering Mountain Plovers (*Charadrius montanus*), sponsored by the National Audubon Society and others (B. Barnes pers. comm.), and breeding Burrowing Owls (*Speotyto cunicularia*), sponsored by the Institute for Bird Populations (D. DeSante pers. comm.). Beyond baseline data on distribution and population sizes we desperately need long-term trends in numbers, reproductive success, and survivorship of all birds over representative areas and habitats to allow us to get away from working only on emergency conservation problems in a knee-jerk fashion. Emergency needs could also be addressed more effectively by various agencies and private organizations cooperatively designing studies at appropriate scales, not those dictated by funding entities. Incremental advances will continue to be made, but the truly quantum leaps in our knowledge are bound to come via such organized studies. While *Western Birds* and the Western Field Ornithologists (WFO) do much to promote the advancement of descriptive ornithology, much more could be done, particularly by motivating members and cooperating with other groups. Scott (1994) has recommended various actions that societies and individuals can do to help preserve and restore avian diversity. Here we

follow his lead and make recommendations that WFO and other groups should consider that will help advance descriptive ornithology. While these recommendations focus on California they should have much wider applications:

(1) Sponsor and raise funds for publication of a scholarly, well-documented update of Grinnell and Miller.

(2) Sponsor and raise funds for publication and computerization of an updated bibliography of California ornithology (Grinnell 1939).

(3) Sponsor and raise funds for computerization of all data submitted to the regional editors of the Middle and Southern Pacific coast regions of *National Audubon Society Field Notes* (formerly *American Birds*). Attempt to make this system compatible with other avian databases currently in existence, and coordinate data collection with other organizations such as California Fish and Game and the Nature Conservancy.

(4) Encourage the development of a clearinghouse for environmental documents to ensure that good field data are not lost.

(5) Encourage the development of a photographic and video archive similar to VIREO (Myers et al. 1984) that preserves a record of the state's changing habitats by documenting colonial bird nesting sites, major roosting areas, and other sites important to breeding, wintering, or migrating birds.

(6) Initiate a monograph series to publish manuscripts too long for *Western Birds*.

(7) Sponsor symposia on specific topics (e. g., Laymon 1987), the proceedings of which can be published in *Western Birds*.

(8) Organize periodic meetings where field ornithologists discuss current and long-term research needs in hopes of keeping research and monitoring focused while staying ahead of the constant barrage of vogue issues (neotropical migrants, riparian habitat, wetlands).

(9) Make recommendations to state and federal agencies and private organizations of important research needs. Examples: breeding bird and winter bird atlases for the entire state, surveys of all colonial waterbirds breeding in the interior of the state, and surveys of various bird species of special concern in California.

(10) Encourage WFO members to participate in organized broad-based studies that will advance our understanding of status and distribution and promote conservation initiatives.

(11) Encourage all scientific and conservation organizations to spend the time and resources necessary to nurture a committed core of staff and volunteers that can help conduct long-term and broad-scale research projects.

CONCLUSIONS

Although great strides have been made in our understanding of the status and distribution of California birds in the 50 years since the publication of Grinnell and Miller, ornithologists, managers, and conservationists would benefit greatly from a scholarly update of that work. Further advances in our knowledge of the state's birdlife can most profitably be made by profes-

sional and amateur ornithologists collaborating on broad-based organized studies. Western Field Ornithologists and other private groups should take the lead in organizing their membership to help advance descriptive ornithology.

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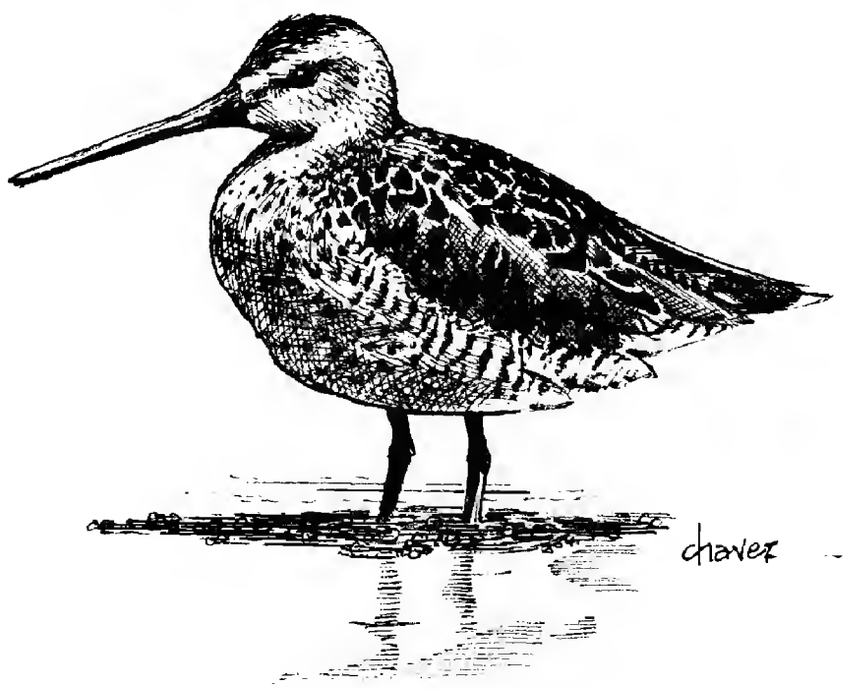

Short-billed Dowitcher *Sketch by Jamie M. Chavez*

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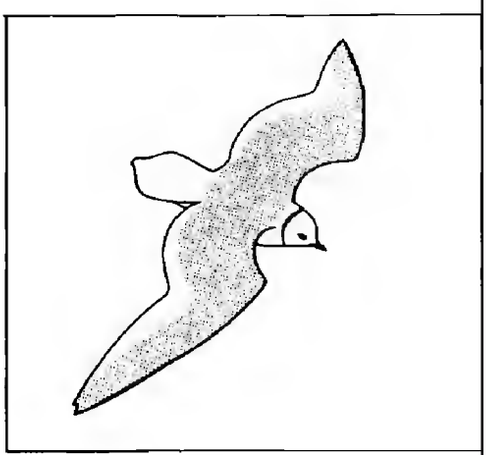

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